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THE NORTH DAKOTA FARMER



"THE NORTH DAKOTA FARMER FOR NORTH DAKOTA FARMERS"

Alex Alin \$17

Vol. 17, No. 8 Lisbon, North Dakota, February 15, 1916 50 Cents A Year



Hog yards and part of the herd at North Dakota Experiment Station. Showing arrangement of pasture lots on either side of a lane, also type of hog cot used for providing shelter in Summer. Each cot will accommodate two sows and litters.

"Foundation stock hogs can be secured more cheaply than any other class of livestock and will bring returns in a shorter time than any other."

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Where the Wind Does the Work

TO WHOM IT MAY BE OF INTEREST:

The Windmill Electric Plant which we purchased from Mr. George Manikowske and which he installed in the month of February, 1915, has been running now within a few days of a year and every part of the plant has as yet proved a perfect success and I think if there were any flaws or errors in the plant I should surely have come in contact with some of them. Its main fuel is the wind with a little distilled water for the batteries. We oil the generator and idler once a week; the wheel running on a large pair of Timken Roller Bearings needs but very little oil.

The generator which we have is a $1\frac{1}{4}$ K. W. and gives a flow of thirty amperes at fifty volts; but the wheel has power in almost any kind of wind we have to drive a generator of at least two kilowatts. Still the one which we have, if we had a storage battery large enough, would light two or three farms as large as ours. The switchboard is practically automatic, having an automatic regulator holding the voltage on the lights at 32 volts.

We have the Edison Storage Battery, being a 36 volt 225 ampere hour battery, which has furnished us lights and current to pump water into the pressure tank also to run cream separator, electric iron and vacuum sweeper. We are more than pleased with the plant and also the careful attention of Mr. George Manikowske in connection with the welfare of the plant.

We wish you the advantage of an Electric Light Plant generated by the wind and Mr. George Manikowske the success of selling you the same as he has the first and as yet the only successful Electric Windmill on the market.

Giving you my best regards, I remain

JOHN L. WILLIAMS,
R. No. 1, Cleveland, N. D.

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WYNDMERE

NORTH DAKOTA

THE NORTH DAKOTA FARMER

Vol. 17, No. 8

LISBON N. D., FEBRUARY 15, 1916

50 Cents a Year

Production and Distribution

By J. H. Worst, President N. D. A. C.

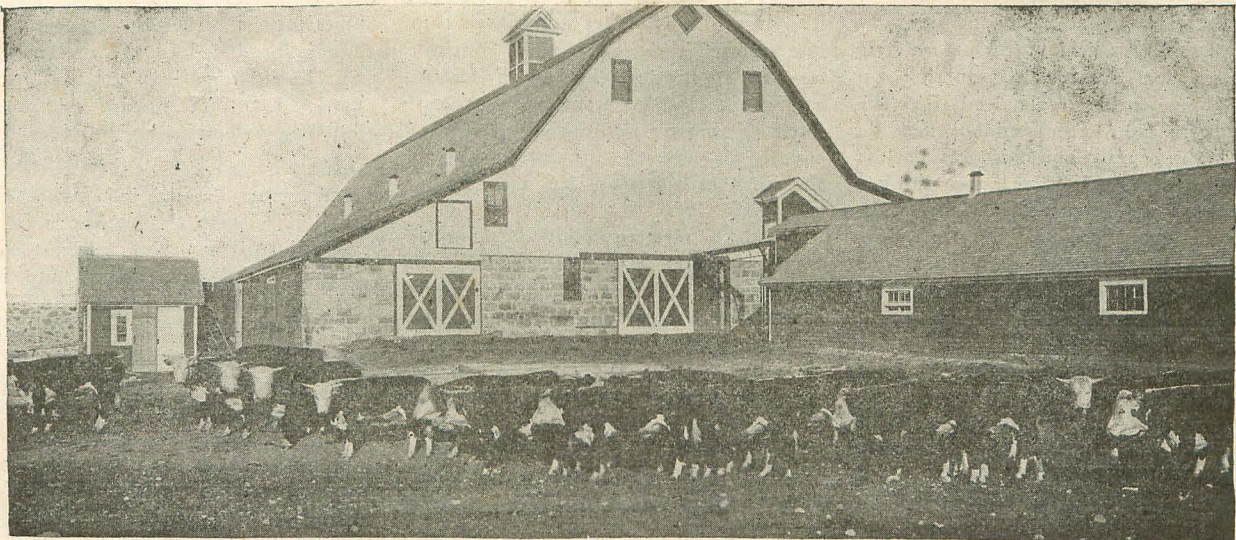
ANY system of economics that divorces production from distribution will, in the end, fail. It will fail for the simple reason that the load will ultimately become too heavy for the producers to carry, and revolution or something akin to revolution, will result.

No, it won't happen right away. The country's natural resources are as yet too abundant. The producer can yet, and doubtless for a considerable period, be robbed of the profits that legitimately belong to him and still

liberal to the producers as to themselves. Of course, this is a violent assumption. As well attempt to tunnel a mountain by logic as to change the desire of American human nature to make easy money and a plenty of it, by argument. Nevertheless, the mountain can be tunneled and methods somewhat analogous to mountain tunneling may be necessary to make production profitable—to the producer.

No one doubts that farming is a most healthful vocation. The labor in the free air and invigorating sun-

But can this regime continue? How long will it be until the distributors become so numerous and burdensome that the producers can no longer carry the load? Or worse still, may not the producers become so wise that they will refuse to carry the load? This very symptom is in the air. Note the uneasiness that prevails among the devotees of soft hands and easy money. Farmers are just awakening to the fact that the profits arising from producing grain, beef, dairy products, etc., are controlled almost ex-



“Livestock on a farm are like a factory and it is their business to transform alfalfa hay, corn and corn fodder, and pasture grass into animal products”

live. He may gradually get behind in his obligations, feel it in his bones that he is slipping backward, financially, yet with courage, born of hope, still grind onward toward the inevitable end that awaits any system of economics which places its producers at the mercy of its distributors.

True, one remedy might be considered—that of instilling into the business methods of middlemen and transportation and distributing agencies such a spirit of justice that they will cheerfully and voluntarily restrict their numbers and their commissions to the very minimum—at least, be as

shine is conducive to physical health, and the close contact and sympathetic relationship with Nature develops a spiritual affinity for the Creator, which no other vocation can offer. Nevertheless, the smell of sweat is objectionable to high brows and near high brows.

By some mysterious hypnotic influence, however, the producing class is inveigled into contributing their millions, in the form of taxes or donations for the support of education, which puts a social ban upon themselves and their mode of life because it involves more or less perspiration.

clusively from the distribution end of the business, and that by organizing and co-operating they can regulate distribution as well as production. In many instances, however, they will find that the laws are fixed against them; hence farmers may have to go a long way toward law-making before things are to their liking. Why not? Should not the majority rule?

Farmers are not far advanced in statecraft, to be sure, but they will learn fast enough once they find that a just law is founded on good sense for the purpose of promoting justice, and not on ambiguity for the purpose

of promoting profitable litigation, and that they may have to make the former or submit to the latter. Not that all laws are unjust nor that all lawmakers are untrustworthy; but certain it is that the earnings of many millions of laborers are scalped right along for the making of a few millionaires. This is called finance, and the laws are somehow made and construed at their behest and in their interests. This does not include all

laws—only such as are needed for the purposes indicated, and they will continue to be so as long as we elect lawmakers simply because they are bright, shrewd, popular and eloquent. Because a lawyer can clear a guilty man or convict one that is innocent, by the force of strategy, as it were, is no good reason for supposing he will legislate wisely in the interests of the state, especially along lines he knows but little about.

worked from four to five years before it is sold. The best brood mares should be kept until they are old as they pay better than to keep younger mares that are uncertain as to the type of colts that they will produce.

A person who has not had experience with livestock will usually succeed far better with grade animals than with pure bred ones. The grade animals do not require as good care as the pure bred and cost very much less money per head so that the risk both ways is much less with grades than with pure bred. In all cases I would use a pure bred sire. The offspring from a pure bred sire and a scrub dam usually resemble about three-quarters the type of the pure bred sire and one-quarter the type of the grade dam. If a grade foundation stock can be purchased in the community you are then certain that they are accustomed to the climate and the feed that is produced in your vicinity and you will usually know the owner from whom they are purchased well enough to know what kind of care they are used to. Animals from a distance are sometimes used to having a greater variety of food and sometimes a different class of food than is produced in the region where you live. Sometimes they are accustomed to better care and shelter than you will probably provide.

Another change that the grain farmer must arrange for before he is prepared to put in livestock is to provide the feed for them. Livestock on a farm are like a factory and it is their business to transform alfalfa hay, corn and corn fodder, and pasture grass into animal products. These three crops—alfalfa, corn and pasture—must be provided if you are going to have economical results from the livestock. Many North Dakota farmers are feeding very little of mill feeds of any sort, depending on alfalfa hay to supply the materials that are otherwise provided in the form of bran, shorts and oil meal. The production of alfalfa and of corn and the care of a good pasture are all items that the grain farmer must learn something about if he succeeds well with livestock. These are subjects in themselves and I will not attempt to discuss them here. The man who grows livestock must learn to anticipate the needs of his animals and make provision for them.

Alfalfa, rape, or a mixture of barley and oats as a pasture should be provided for the sows and litters, partly as a means of supplying them with cheap food and, partly as a means of putting them in good health and keeping them thrifty.

Changing to Livestock Farming

J. H. Shepperd, N. D. Experiment Station

I assume that the grain farmer has had no experience in livestock production other than taking care of his work horses and two or three milk cows. Some grain farmers have had as boys and young men good livestock experience and for these the change will be simple.

I would suggest first of all that the change be made rather gradual as it is necessary to add a good deal of equipment to a grain farm before it is suitable for livestock production on any considerable scale and for the further reason that experience may be secured gradually and mistakes be less expensive than where a larger number of animals are involved. Many grain farmers who change to livestock production are doubtful about whether they want to continue, it permanently, do not know what types of barns and sheds they will need and in many cases are not certain what kind of livestock they will adopt.

Straw sheds and straw corrals built by using small mesh woven wire fencing and filling the spaces between with thoroly tamped straw will serve the purpose very well so far as keeping the animals comfortable and are the most inexpensive type of shelter that I have seen. I visited a straw hog shed last week that was provided with light and sunshine by means of windows; was wide enough that two runs of pens for sows and litters could be arranged, with a middle alleyway and so that the pen partitions could be removed and make it one open shed when desired. Last winter I saw a corral made in the same fashion with protecting walls of straw about ten feet high. It was a commodious affair made in two divisions with a wide passageway between them. Straw packed in this fashion will keep out the wind very well and will keep the animals comfortable during the winter season.

Some pasture must be fenced which represents an expenditure.

The tastes of the individual farmer must be the controlling item in deciding which class of livestock he will adopt.

Foundation stock of hogs can be secured more cheaply than any other class of livestock and will bring returns in a shorter time than any other. They have the further advantage that one can sell them out and discontinue on shorter notice than with almost any other class of stock without loss. Such a move would be made, of course, in case the stock did not fit the farm or the man did not succeed well with pigs.

Next to pigs probably beef cattle can be handled with the least risk on the part of a beginner. Dairy cattle, sheep and horses follow in about the way named. Sheep are hardy here and are animals that give quick returns but they are also a class of livestock that will have very heavy losses if they are not given the right care at each season during the year. Dairy cattle give monthly returns from the milk but require considerably better care to get the best results, than do hogs and beef cattle. Horses are a good class of stock to produce if one is adapted to them and can wait for four to five years for returns. It is a splendid plan to grow enough colts to keep up the workstock so that heavy expenditures for work horses will not be required. Horses sell best at from eight to nine years old on the city markets and they should weigh 1500 pounds or more to bring good prices. It is comparatively easy matter to have colts coming on so that the work on the farm can be done with young horses that are in the meantime being thoroly broken and not allow any animal to get so old as to begin to lose in value. Each colt produced can be

Changing from exclusive grain production to livestock farming would be a long story as it embraces the whole subject of care and management of livestock, buying and marketing livestock, crop rotation, pasture, constructing suitable buildings and fencing pastures and paddock for them. This covers almost the entire range of agriculture and to be successful with it requires a considerable of experience as well as information that can be secured by reading from and talking with those who have had experience.

In this article I am trying to advise caution in proceeding to change from grain farming to livestock farming

rather than to discourage anyone from making the change. I believe that this change is necessary to make a success of farming in this state but I realize that if one makes the change figuring that it will be simple he will surely be disappointed in the outcome. Livestock are interesting to work with and it is a pleasure to most persons to have them around, particularly when they choose the class and breed of stock they fancy. When one likes the kind of livestock that he is growing and is interested in them the learning to care for them comes rather easily and simply.

AN ALFALFA FRIEND

Byron B. Bobb of Haynes, North Dakota is one of the lecturers on the North Dakota Farmers' Institute platform. His addresses are largely along the line of alfalfa production. In an interview he gave the following concerning his experience in Adams county.

He started growing alfalfa eight years ago and has secured a crop of hay and a crop of seed every year, tho the seed production was light this year. Wheat has during this time given two complete failures two light crops, two fair crops and two heavy crops, so that the alfalfa has shown up

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"During the five years I have been feeding SAL-VET I have not lost a single hog. Just across the fence my neighbor lost dozens from cholera. SAL-VET also keeps my horses, goats and cattle in perfect condition." William J. Damrell, Shelbina, Mo.

Right now is the time to test SAL-VET. Your animals are on dry feed. They are not getting sufficient exercise. The tendency to constipation and indigestion is greatly increased. Under these conditions the deadly stomach and intestinal worms thrive best—get in their destructive work. Let your stock have free access to SAL-VET—my great worm destroyer and live stock conditioner. It will destroy these blood-sucking, disease-breeding pests. I'll prove it before you pay—let you test it 60 days on your own stock so that you can see the good results it produces.

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SAL-VET is the medicated salt which contains no Antimony. It is the greatest worm destroyer ever prepared for farm animals. Just give your stock access to it; they'll rid themselves of worms. It requires no dosing—no drenching—no bother at all.

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Just fill out the coupon—tell how many heads of stock you have; I will supply you enough to last all your stock 60 days; you pay the freight charges when it arrives and feed it according to directions. If SAL-VET does not do what I claim and you make a specific report in 60 days, I'll cancel the charge; you won't owe me a penny.

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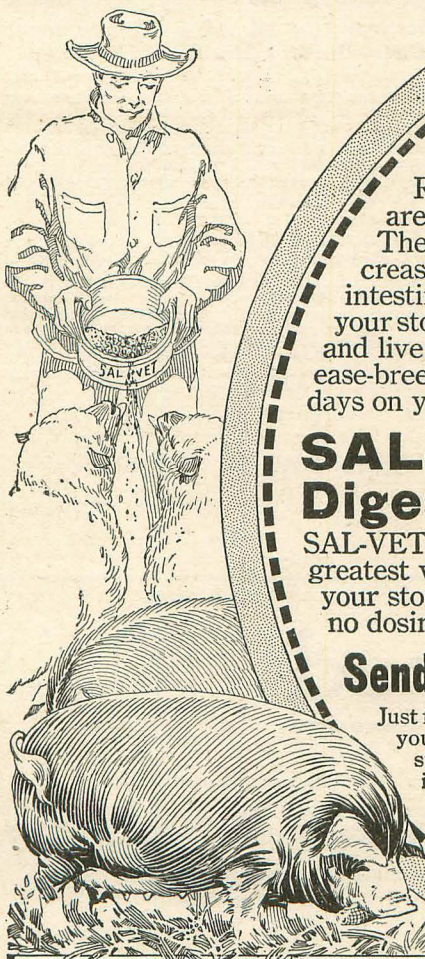
Supply me enough SAL-VET to last my stock sixty days. I agree to pay the freight, feed it as directed, and will then pay for it if it does what you claim. If it fails and I so report specifically in 60 days, you are to cancel the charge and I will owe you nothing.

I havehogs.....sheep.....horses.....cattle

Name

P. O.

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"I had two colts with distemper late in the fall. These colts were so full of worms that the parasites frequently brought on colic. After feeding SAL-VET only two weeks, all symptoms of worms and colic disappeared."—M. N. Clodfelter, McCluskey, N. D.
"During the past few years, I have used many different stock tonics. My test of SAL-VET has convinced me that it is the only one

worth buying. All my neighbors use it now after having seen the good results I have obtained from it."—John E. Tracy, Glen Ullin, N. D.

"I should not like to be without SAL-VET any more, as I have fed it for the last three years, during which time I have not lost any hogs from disease, while nearly all of my neighbors lost theirs."—A. Schoon, Parker, S. D.

exceedingly well. He states that the first year that he produced seed he did not care to run it thru the threshing machine so he flailed it out and ran it thru a corn crusher and then thru the fanning mill, which worked out very well. He tells of a neighbor who had a small amount of seed. He first flailed out and then ran it thru the coffee mill and in this way secured some fine seed.

Mr. Bobb finds that the seed has been averaging a little better than two bushels per acre, and as the lowest price received was 60 cents and often times higher, which means that the lowest returns have been \$72 per acre for the seed. The first crop he cuts for hay and feeds. He finds that the crop of hay pays for all the work, so that the seed crop is all pure gain. He has at the present time 130 acres of alfalfa in 36-inch rows and 20 acres sown broadcast which he is going to use for a hog pasture. He does not find it profitable to sell alfalfa hay, but feeds it to beef cattle, hogs and poultry. In this way he secures at least \$15 per ton and as the first crop averages about a ton per acre it is easy to say that this will amply pay for the cost of producing two crops of alfalfa. Mr. Bobb has made a comprehensive study of the alfalfa seed situation and has it sized up as follows: The northeastern states are going into the alfalfa growing and must have hardy seed, but cannot produce it themselves. The section that can produce this seed most satisfactorily is North Dakota. As he says this section has a "cinch" on alfalfa seed production. He feels that the farmers ought to be taking advantage of this opportunity, so that this big market in the Northeastern states can be supplied with the seed that will enable them to make a success in alfalfa

growing.

Mr. Bobb grows nothing but the Grimm and advocates it. He has found that it has stood up under all kinds of trials and is the safest alfalfa to grow.

Many inquiries are coming to the North Dakota Experiment Station in regard to where North Dakota Grimm seed can be secured, which all points to the fact that the North Dakota seed has a good reputation and is being looked for in all sections that need a hardy alfalfa.

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No less important than the splendid quality of Western Canada's wheat and other grains, is the excellence of the cattle fed and fattened on the grasses of that country. A recent shipment of cattle to Chicago topped the market in that city for quality and price.

Western Canada produced in 1915 one-third as much wheat as all of the United States, or over 300,000,000 bushels.

Canada in proportion to population has a greater exportable surplus of wheat this year than any country in the world, and at present prices you can figure out the revenue for the producer.

In Western Canada you will find good markets, splendid schools, exceptional social conditions, perfect climate, and other great attractions. **There is no war tax on land and no conscription.**

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THE SEED BED ALL-IMPORTANT

Indianapolis, Ind.
Jan. 29, 1916.
Editor North Dakota Farmer:
Lisbon, N. D.

Dear Sir: I, yesterday, received from Mr. Chas. Cristadoro of Point Loma, Calif., a request that I send you a copy of Modern Miller. Sorry to say I can not do so, as I have not been favored with a copy myself, tho I learn they have been giving notice to some of my experimental work on wheat culture. I do not know what, nor how extended, has been their comments.

Now many things there are in common between winter and spring wheat, and of course you North Dakota people are interested only in Spring wheat, whereas we sow late to avoid Hessian fly.

Spring wheat should be sown early for same reason, but the most important thing connected with wheat culture is the seed bed. The imperfect seed bed, like the drink evil, we have always with us. I do not know whether you North Dakotans broadcast or drill your wheat. A. M. Zion of Carter, Montana, has been to see me three times within last month. He tells me the various pressure drills are coming into general use in Montana, and were not giving results expected, but until he examined my various wheat plots he did not know what the trouble was. It was simply a case of sowing seed too deep. If you farmers are using drills, 'tis more than likely you are suffering a handicap which they do not recognize, as even a possibility. When wheat is sown deeper than one-half to three-fourths inch it rebels, and proceeds to adjust matters itself, a burden that should never have been imposed on it. A pressure drill of any form is a dangerous tool if not equipped with a "depth gauge," or that will not permit a "hoe" to dig deeper into soil than one-half to three-fourths inch. I sent to Mr. Cristadoro a newspaper article from my pen which he may forward to you. I have but one copy left.

Yesterday and today, Jan. 28 and 29, I made an investigation of root development of sowings on perfect and imperfect seed bed, and deep

sowing, and wheat sown with depth gauge on the imperfect seed bed. Below I give results. A considerable mass of earth was lifted with the plants and placed in a basin of water till all soil was removed.

These two plots were of equal fertility. Sown Oct. 8.

Perfect Seed Bed

Roots placed end to end after careful separation.

Plant No. 1: length of roots 13 ft. 9 in.
Plant No. 2: length of roots, 16 ft. 0 in.
Plant No. 3: length of roots, 16 ft. 7 in.

Imperfect Seed Bed

Plant No. 1: length of roots, 0 ft. 6 in.
Plant No. 2: length of roots, 1 ft. 2½ in.
Plant No. 3: length of roots, 1 ft. 8 in.

Today's results sown Oct. 9. Perfect seed bed plot not so fertile as the imperfect seed bed.

Perfect Seed Bed

Plant No. 1: length of roots, 9 ft. 4 in.
Plant No. 2: length of roots, 8 ft. 10 in.
Plant No. 3: length of roots, 10 ft. 1 in.

Imperfect Bed with Depth Gauge

Plant No. 1: length of roots, 7 ft. ½ in.
Plant No. 2: length of roots, 5 ft. 10 in.
Plant No. 3: length of roots, 5 ft. 6 in.

Imperfect Bed Sown 2 Inches Deep

Plant No. 1: length of roots, 2 ft. 3 in.
Plant No. 2: length of roots, 1 ft., 8½ in.
Plant No. 3: length of roots, 2 ft. 1 in.

Now the length of roots on the perfect bed is not extraordinary as by June 1st they will measure hundreds of feet, but the dearth of roots on the imperfect bed is deplorable, and can result in nothing but a poor yield under the most favorable circumstances.

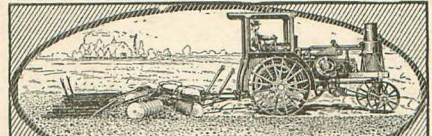
The imperfect bed sown at proper depth is in much better condition, but does not approach the perfect seed bed



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Avery Tractor success is due to these special features in their construction: Sliding Frames, Double Drives, 2-Speed Gears, Low-Speed Heavy-Duty Tractor Motors, Extra Large Crank-Shafts, Renewable Inner Cylinder Walls, no Pumps or Fan. Prices: 3-Plow Tractor, \$760 cash; 4-Plow Tractor, \$1120 cash; 5-Plow, \$1680; 6-Plow, \$2145; 8-10-Plow, \$2475. Avery "Self-Lift" Plows and "Yellow-Fellow" Threshers are also built in sizes to fit any of the above size tractors. We also build a special smaller size tractor for \$295 cash.

Write for new free 1916 Avery Tractor, Plow and Thresher Catalog and learn all the facts about Tractor Farming, Threshing, Road Building, etc., with an Avery Outfit.

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and is heaving badly. The roots of the deep sown imperfect seed bed have but few of the small rootlets found on those of the perfect bed.

I enclose a couple of plants for your inspection. Guess which is which. (Would that our readers could see the contrast!)

Both sown Oct 8, on soil of equal fertility and with in 6 ft. of each other. Only difference was the seed bed; one perfect, other imperfect; i. e., deep broke, thoroly pulverized, firmly packed.

Respectfully yours,

E. P. McCaslin,
5901 Dewey Av.

P. S.

The Disc Harrow is the most dangerous and destructive implement ever put into the hands of the farmer. There may be a proper way to use a disc harrow but 99% of farmers use it otherwise. My advise is to throw everyone into nearest navigable stream. Studiously avoid all vertical cutting implements, and substitute horizontal tools of the shaving kind like sod cutters. I have experimented for 23 years, with never a failure nor an indifferent success. My wheat plots on soil that has not been turned under for more than 20 years. Cabbages last year weighed 12 to 15 pounds. 1914 had 363 bushels potatoes per A. 47½ bushels popcorn this year.

E. P. M.

HANDLING SEED OATS

I. The Seed Bed for Oats

Oats usually follow a cultivated crop such as corn or potatoes; hence it is not generally necessary to plow the land before sowing. Oats do well on fall-plowed land, but if the land has not been plowed in the fall better yields are usually produced from sowing in a seed bed made by disking and harrowing than in one made by spring plowing. Early seeding for oats is very desirable. As a good seed bed can be made much more quickly with

the disk harrow than with the plow on land that was in a cultivated crop last year, the saving in time is an advantage. Two diskings and one harrowing with the spike-toothed harrow will put clean land in good shape for sowing with the drill.

Oats grow best in a seed bed that has 2 or 3 inches of loose surface soil, but which is firm below that depth. This is another reason why disking is to be preferred to spring plowing, for there is not time for plowed land to settle before the seed is sown. Still another reason why the disk is better is that a field can be disked much more cheaply than it can be plowed, and the cheaper way of doing a job should always be chosen if it gives just as good results as the more expensive way.

II. Buying Seed Oats

If the local supply of seed oats is of poor quality, care should be taken in getting a new stock for sowing. It is better to get this supply from points to the east or west than from points north or south, as the varieties are more likely to be those which will do well locally. Varieties which may be best two or three hundred miles to the north or south may not be at all suitable. If new seed is wanted, ask the county agent or the state experi-

ment station where to get it and what varieties to buy.

STRAWBERRY Catalog Free

The Best of the hardy varieties, bargain prices. Kellogg's Hardy Northern grow fruit plants are well grown and productive. None better. Also **THE EVERBEARING STRAWBERRIES** fruits from early summer till Nov. Send today for price list and pamphlet of instructions—62 years experience. **KELLOGG'S NURSERY, Box 254 Janesville, Wis.**

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If you have been growing a variety which does well in your locality it is better to sow well-cleaned seed of that variety grown on your own farm or in your county than to get seed from a distance. It takes oats a year or two to get used to the soil and climate in any locality, and they will not do their best until they become adapted to local conditions. If the oats grown locally were injured more or less last summer by rains after harvest, make a germination test and prove that they will not grow before you decide to send away for seed. If your oats are light and chaffy take out about two-thirds of the lightest of them with the fanning mill and use the other third for seed.

III. Grading Seed Oats

The idea that oats run out and that it is necessary to get new seed every few years is quite common but it is not justified by the facts. There is no reason why a good variety of oats should not be just as good twenty years from now as it is now, if care is taken to keep it pure. The seed should be cleaned and graded each year, taking out the weed seeds and the small kernels. It should also be treated for smut at least once in two or three years. If the seed is of good quality it will not pay to run it thru the fanning mill more than once, to take out the small kernels and weed seeds. If the seed is poor or very weedy, running it thru a second time and taking out two-thirds or more of the grain is well worth while.

The reason it is best to take out the small kernels is that they do not make as strong plants as the large ones. The weak plants from these small kernels usually produce little grain. If the kernels that are sown are all of about the same size the plants will be uniform, the crop will all ripen at the same time, and the yield will be better.

IV. Sowing Oats

The best way to sow oats is with the grain drill. Drilling gives a more even stand than broadcast seeding, for all the seed is covered to about the same depth. In sowing broadcast, some of the seed may not be covered at all and some may be covered too deeply. Germination is better from drilled seed and the growth is more uniform thruout the season. In numerous tests at the experiment stations drilled oats have outyielded oats sown broadcast by several bushels to the acre. Better stands of grass and clover can also be obtained in drilled than in broadcast oats.

The best depth to sow oats varies with the soil and the season. In any case they should be covered with half

an inch to an inch of moist soil. They should be sown deeper in sandy soils than in loams or clays. Deeper seeding is also necessary when the ground is dry than when it is moist. On the average the best depth is from 1 to 1/2 inches.

Oats should be sown as early in the spring as it is possible to make a good seed bed. The exact date of course varies with the season and with the locality. This does not mean that the preparation of the land should be neglected in order to sow early. Better yields will be produced from seed sown in a good seed bed than from that sown a few days earlier in ground too cold and wet for the seed to germinate.

In a good seed bed the best rate of seeding in the corn belt is about two and one-half bushels to the acre. If the seed is sown broadcast, more is necessary. More seed is required in a poor seed bed than in a good one.



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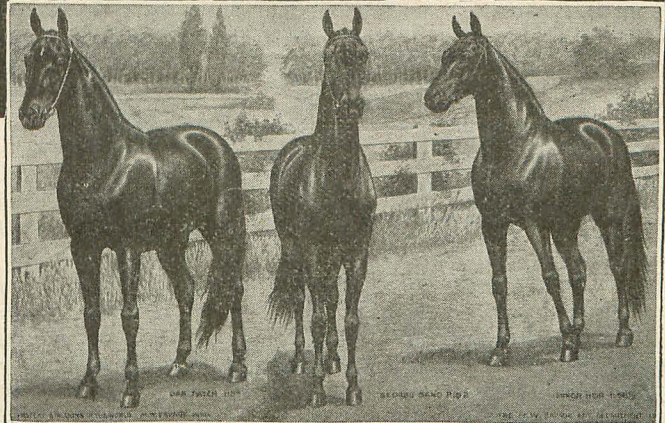
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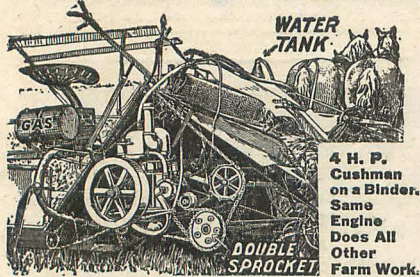
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 Mothers' Magazine..... 1.50
 North Dakota Farmer..... .50

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North Dakota Farmer, Lisbon, N. D.

Saves a Team



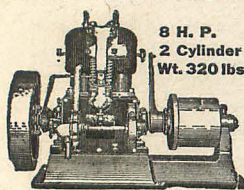
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SUMMER FALLOW AND MOISTURE SAVING

The amount of moisture that the summer fallow will conserve has usually been overestimated. Careful investigations have been carried on at the Edgeley, Dickinson and Williston Sub-Stations to test out the amount of moisture that could be saved by summer fallow.

The results of this investigation are given in Bulletin No. 110 of the N. D. Experiment Station. The data shows that the average amount of rain and snowfall stored in the soil at the Edgeley Sub-Station for the years 1907 to 1914 was fourteen and one-fourth percent, at the Dickinson Sub-Station twenty percent, and at Williston, twenty-one and three-fourths percent. This means that a little over one-fifth was as much of the moisture as could be saved by summer fallowing, and that on a good summer fallow. It was plowed in good season and kept free from weeds or the amounts of moisture saved would have been less. It was also found that enough moisture could not be stored in the soil to make a crop without some rain during the growing season. The stored moisture was found to be a help in carrying a crop thru a dry spell.

It is also brought out in the bulletin that practically all the moisture that is removed from the soil is taken out by plants and that but little evaporates from the surface. This emphasizes the need of keeping down weeds and at the same time growing a crop. This is especially true of the cultivated crops as corn and potatoes. Much of the moisture removed from the grain field is taken out by weeds. The weeds not only take out moisture when the grain crop is growing but in many cases keep on growing all fall, removing moisture all the time. The removing of these weeds would result in a big saving of moisture, and it would be a saving of moisture that is in the soil.

CORN PREPAREDNESS

Now is the time to prepare for the corn crop. The army wants only fit men, it selects them carefully. The same must be done with corn. Planting a kernel of corn that is dead is like expecting a dead man to make a good soldier. Planting a kernel of corn that is so weak that it can only produce a stalk but not an ear is also a waste of time. Every ear of corn planted should be tested. Five or six kernels from each ear is enough. If these grow, the rest will likely do as well.

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THE FRED MUELLER

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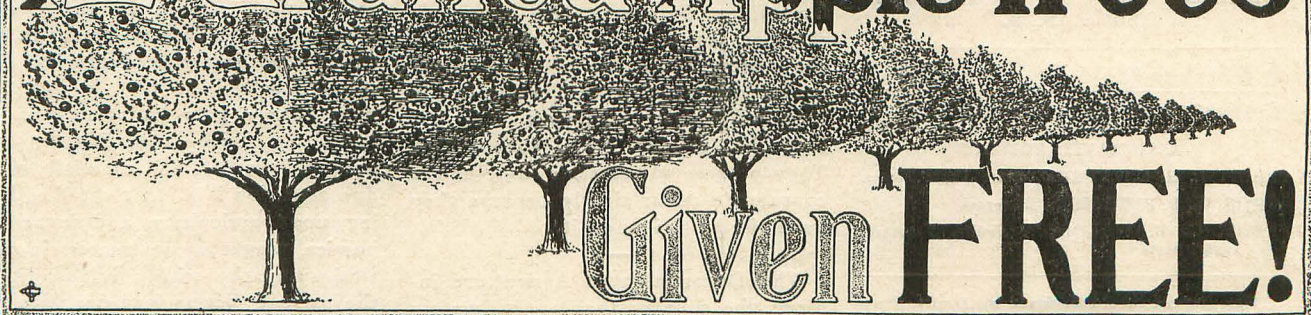


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FOUR HARDY, AND VERY CHOICE VARIETIES

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These Trees

Are genuine grafted stock, guaranteed true to name, sound and healthy. We have arranged with one of the largest nurseries in the country for a supply of these grafted trees for our subscribers, and we want to send you a set of twelve. Whether your farm is large or small, these twelve trees will find a place, and add to its value and beauty.

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What she thinks about setting out a Home Apple Orchard, and then—do as she says. The women know the value of a Home Orchard. It means plenty of sauces, pies and puddings. It means an abundance of the King of all Fruits on the table, every day in the year, and it means a tidy bit of pin money from the sale of surplus fruit from these trees.

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Such as these four grand varieties means that you will have fruit from this orchard in just a few years. In three years you will have some apples from these trees, in five years you will have an abundance. From then on the yield of the trees increases with their size, until trees planted forty feet apart meet overhead. No better varieties could be found for a Model Home Apple Orchard, than the four in this collection.

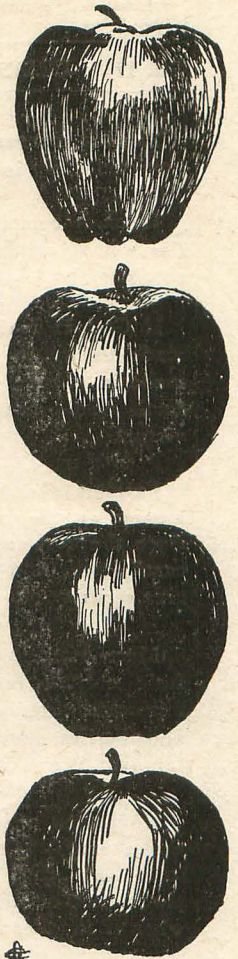
Complete Instructions

Are sent with each set of twelve trees, practical, simple directions that explain just how to plant and care for these twelve trees. By following these instructions you will have, in a few years, an orchard that will be a source of pleasure and profit to you.

This Offer

Is made possible by a comparatively new method of propagating the apple tree. Instead of the slow, laborious method of "budding" a "seedling" apple tree to obtain the variety desired, a much quicker method is now employed. Healthy, vigorous branches are cut from trees selected for their size and yield. To each of these branches, called "scions," a strong root from same type of tree is carefully grafted, and the little grafted tree is ready to be set out. The twelve little trees we send you are all produced in this manner. They take root at once, and develop into large heavy-bearing orchard trees, as soon, or sooner than a larger tree planted at the same time. These little trees are about a foot long. You could not secure trees of better quality, or that would bear sooner, if you were to pay a dollar apiece.

As the demand for these trees will be enormous, you should take advantage of this offer at once, to be certain of getting your twelve trees early



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Vol. 17 FEBRUARY, 1916 No 8

The big insurance companies are investing largely in farm mortgages.

When it comes to raising big yields the school children seem to be top-notchers, both north and south.

If God in making the country had made as big a botch of it as man made in making the city, then indeed earth would have but few redeeming virtues.

Farmers should be able to secure money at the most reasonable rates since the best security on earth is the earth itself, and the farmer has it to give security on.

More attention should be given to fruit culture on the farms. Every farmstead should produce all the fruit and berries necessary to supply the family. Plant this spring.

No nation can with safety overlook the source of its food supply. No state can with sanity overlook its paramount natural resource, especially when it supplies the nation's food.

The amount of labor and capital invested in poultry, when compared with the actual wealth they produce, places that branch of farm management far and away above anything else on the farm as a profit-making asset. Poultry is the most neglected and yet the most profitable thing on the farm.

According to a published statement made by the Comptroller of the Currency, 1247 banks admit, under oath, that they charged usurious rates of interest ranging all the way from ten to

over one hundred per cent. Of these 90 are in North Dakota. Would it not be a good plan for the farmers to start a Better Banking Association?

There seems to be a deliberate and wide-spread propaganda at work to forestall really co-operative efforts on the part of farmers by substituting the merest semblance of farmers' organizations together with a sop in the form of charity. Farmers will not long be cajoled with such chaff. They propose to get their share of the consumer's dollar simply because they have the best right to it.

The Department of Agriculture informs the country that approximately 1,400,000 tons of flax straw are burned or permitted to go to waste each year on American farms. At the same time the country is importing large quantities of flax waste from foreign countries for paper and board manufacture. As most of this waste occurs in North Dakota why not stop this tremendous leak by turning our flax straw more generally into profit instead of smoke?

Charity returned to farmers by certain big interests in the way of lectures that advertise their goods, and donations which return two dollars for every one donated, may ease their consciences, but such things do not cure the main evil. The evil referred to consists in perpetuating an economic system which compels one class of men to do the work in order that another and minority class may pocket the profits.

Why does the boy leave the farm? Doubtless because the farm never made any appealing effort to retain the boy. If the wind-jammers that prate so eloquently of the "back to the farm" movement were to use their energy in developing a rural life with conditions that would appeal to the boy, there would be little need of so much concern about the boy going to the city for a career. Nine times out of ten the "Back to the farm" advocate is selling real estate on commission, which explains his interest in the rural life problem.

One of the most important propaganda in the state is that for improved seed grain, and yet accommodations for its encouragement come very grudgingly. The annual seed show held in Fargo should have right of way instead of being assigned a place in the attic of the Auditorium. Good seed as against inferior seed means a spread of millions of dollars in favor of the farmer. No selfish or

finicky interest or sentiment, therefore, should hinder the splendid efforts being made to improve the seeds which farmers plant.

Country children go to the city rather than remain in the country very largely because we persist in educating them in terms of city life. The country school at best is but little more than a poor imitation of a city school. With consolidated rural schools, however, and especially where due attention is given to studies bearing upon agriculture and home economics, taught by instructors in practical sympathy with rural conditions, the current that so long has been running from country to city may be checked. It should be checked for the country's as well as the children's welfare.

Just as soon as bankers, lawyers, and business men disorganize can they, with any show of reason, discourage the organization of farmers? Organization is as fair for one class as for any other. In fact this seems to be an age of organization—an age in which the artificial man and not the natural man governs in business and politics. Farmers, therefore, must organize and contend as a unified body for their rights whether they agree with the principle or not. Otherwise they must remain a helpless majority, accepting conditions that are made for the benefit of organizations that flourish, in many instances, at the expense of the farmer. As the old adage puts it: "What's fair for the goose is fair for the gander."

A SIGNIFICANT STATEMENT

A bill is before Congress at the present time to repeal the Mixed Flour Law. Who is back of this measure? Is it the consuming public? Is it the miller who grinds the great bulk of the wheat of this country into flour? Or is it the baker who desires the repeal of this law? A careful investigation reveals that none of these parties is asking that the law shall be repealed. People can buy corn-flour or corn-starch if they desire to do so and mix it with their wheat flour or use it as they please. Then, who is back of such a measure?

The Bakers' Weekly for January 29, speaking for the bakers, says:

"It now behooves the baking industry, which seems to be strenuously opposed to any change in this law, to get busy and make its influence felt."

The same thing may be said for the great mass of the public, but the significant thing is the statement made editorially in the same journal, as follows:

"It is very evident that if the Master Bakers wish to gain their point in keeping the Mixed Flour Law on our Statute books as it now stands, some considerable lobbying will have to be done in Washington."

Why is it necessary to do "considerable lobbying"? Are not the people's interests being protected, rather than the interests of those who would profit by a repeal of the law?

Again they say:

"In connection with this it struck us how regrettable it is that one of the mightiest industries in the country maintains no regular lobby in the National Capital."

What a significant statement. is this! "Maintains no regular lobby in the National Capital." Do other industries maintain lobbies in the national capital; and if so, for what purpose and why is it necessary to do this?

Editorially they say further:

"Hardly any branch of our commerce is without permanent representation in Washington, and even a number of influential unions maintain regular paid lobbyists in our national Legislative Hall."

What a tremendous statement or confession or expression of fact, if such is the case! Does the great mass of common people maintain a lobby in Washington? Is there a lobby in Washington that represents the great consuming public? Do the farmers of America maintain a lobby at Washington to look after their interests? In other words, do the more than 80,000,000 of people out of our 100,000,000 maintain a lobby at Washington for their interests? Or are the lobbies maintained by the few to benefit themselves and the interests which they represent? If such lobbyists are maintained, who pays for maintaining these lobbies and having in Washington a body of representatives for the several interests? In fact, does it not come into the cost of material which this same 80,000,000 of people are obliged to purchase from day to day? Then why should not the farmers maintain a lobby, if such is to be the policy of all interests thruout the country? Why should not the consuming public be represented in a lobby to protect their interests instead of having the matter one-sided by representation from a few of the powerful interests with a possible detriment to the interests of the great mass of common people who do the work of the country and pay its bills?

Livestock Department

FARM AND STOCK NOTES

N. J. Shepherd

Having things convenient saves time and labor.

Best breeds do not insure best profit without proper treatment.

Working to the best advantage is working most progressively.

A high selling price does not lessen the cost of production.

The best farmer accomplishes the most with the least labor.

Systematizing the work upon the farm is one way to lighten it.

Successful dairying depends upon good care as well as upon good stock.

Combination and co-operation greatly lessen the cost of production and distribution.

Economical feeding depends upon the food assimilated rather than the food eaten.

Animals must relish their food if they are to get the most out of it.

A perfectly formed animal does not need a great amount of fat to make the best appearance.

Mistakes are usually expensive teachers but some farmers will not learn in any other school.

On the farm as elsewhere, anything that saves labor or increases efficiency is a permanent benefit.

The manure that goes to waste upon the farm robs the soil of that much fertility.

The man who does not take care of his machinery is inviting unnecessary expense and loss.

The amount of work a man can do or supervise depends very much upon how it is done.

Too much feed and too little exercise is as bad as too much exercise and too little feed.

Crop rotation distributes work. The man with many crops does not have to do all at once.

To determine the profitable cows it is necessary to systematically weigh

and test the milk of each cow separately.

Without stock there can be no complete utilization of the farm products with stock these should be no waste products.

The animal with the greatest capacity for economical production demands the greatest care and attention to bring about their production.

As long as an animal eats with a good appetite and maintains good health and condition the correct quantity of food is being supplied.

The best worker is the man that does the best work. Poor work is always expensive and often not worth the cost.

One item in securing the best profit is to prevent waste and make every pound of feed bring the best results possible.



Spring Farm King Pontiac 14th. No. 133407

The "Strickland Farm" herd of over 100 Holstein-Friesians, headed by the famous "Spring Farm King Pontiac 14th" is protected from disease germs and its home made clean and bright by

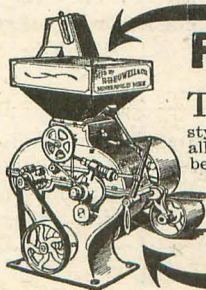
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R. R. HOWELL & CO., Mfrs., Minneapolis, Minn.

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DUROC JERSEY SPRING PIGS

Buy your new stock now while the price and express will be low. First class stock from prize winning sires at reasonable prices. Unrelated pairs and trios a specialty. New stock for old customers.

Roy W. Jacobs, : Wadena, Minn.

HOLSTEIN Cows, Heifers and Young Bulls. All ages. Write Envilla Stock Farm, Cogswell, North Dakota.

More Money Raising good Calves than anything else. High-grade Holstein, Guernsey and Shorthorn calves for \$12.50 to \$25.00 each, crated to express. Get full details. Paul E. Johnson, Station "L" South St. Paul, Minn.

FOR SALE—Improved Chester White Pigs from April litter, either sex; pedigree furnished. John F. Zimmerman, Davenport, N. D., Route 2.

FOR SALE. Choice Chester White Boars and Gilts. From Prize-winning stock. W. I. Grout, Abercrombie, N. Dak.

WORLD'S CHAMPION A. R. RED POLLS!

Minnesota Champion A. R. Guerneys. Practically every mature cow in the advanced register. Eighteen (18) of the above cows averaged 603 lb. butterfat. Write for sales list. Jean Du Luth Farm, : Duluth, Minn.

For Sale: Poland China Spring Pig Boars, S. C. White Leghorn Cockerels, Grimm Alfalfa Timothy and Clover Seeds. Catalog Free. J. W. BECKMAN, GOKATO, MINN.

Red Polled. If you are looking for choice bulls all ages, write, Howard H. Capener, Erie, N. D.

Pure bred Percheron Horses and Shorthorn Cattle Stock for sale. Nels Knutson & Sons, R. 1, Fullerton, N. D.

THE PLEASANT GROVE FARM at Holmes, Grand Forks County, sells registered Shropshire and Oxford Rams and Ewes; also Polled Durham Bull Calves. R. E. Strutz, Bismarck, North Dakota.

FOR SALE. Two Holstein Bull Calves, nicely marked and fine animals; Ages three and four months. Sired by my herd Bull Sir Albino Beets Segis No. 116611. Wm. Pewe, McHenry, North Dakota, R. R. 1.

ENVILLA STOCK FARM

Cogswell, N. D.
Will quote you special prices on Angus and Holstein Cattle, Feeding and Breeding Sheep, Shetland Ponies, Duroc Jersey Hogs, Wolf Hounds, Collies, Rat, Bird Dogs and other breeds, Angora Cats. All varieties of chickens turkeys, geese, ducks, guineas, pheasants, rabbits ferrets. Pets. Live Foxes, Skunks, Mink and Badgers.

Bixby's Red Polls

My herd bull, J. D. Merryweather, No. 24396, is the son of J. D. Millie, A. R. Grand Champion cow at Minnesota and Montana, in the 1915 show-ring and won the milk and butter contest with Guerneys, Jerseys and Brown Swiss competing with records of 600 pounds butterfat. J. D. Millie weighed 1280 pounds at thirty months old, and is full sister to the World's Champion two-year-old heifer. J. S. BIXBY, : LISBON, N. DAK

Farming is a business and the farmer who succeeds is the one who best studies his business and puts business methods into his work.

The future of a steer is largely made during the first year of his life. Once growthy and thrifty it takes less food to maintain that condition.

A variety of feed is best for all stock because they will eat it with more relish, besides in a variety will be found all the elements of nutrition.

A cement floor like an earth floor should always be kept covered with litter and especially so in winter. It will add materially to the comfort of the stock.

The true test of the dairy cow is her yield together with the amount of butterfat her milk contains if the milk is used for cream or butter.

The cow that is not naturally a free milker and a large producer of butterfat cannot be improved to an appreciable extent by all of the balanced rations one may figure out.

If we put an extra draft on our young stock and put them to breeding early in life we anticipate a good part of our profit which would come in its proper time.

It is decidedly worth while to keep all of the farm at work. The owner pays taxes on all of his land and is out of pocket for whatever is not earning him something.

Improved farm machinery lightens labor, does more and better work, saves drudgery, gives an air of system and good management, adds much comfort and satisfaction to the daily routine of labor and improves the social life of farmers.

It costs a certain amount to produce every animal and every product raised on the farm. If it is sold for only the producing price the sale is a very poor one. Every dollar above that secured means profit and the better the sale the greater the net proceeds from the farm at the end of the year.

With all stock overfeeding is just as bad as not providing enough and great skill is required to prevent overfeeding, especially if the ration is limited to two or three articles of food. A variety is necessary not only for best results, but in order to keep the appetite in good condition so that a sufficient quantity of food will be consumed.

Fanciers of high-grade racing animals will be interested in our offer found on a foregoing page. Two millions have already sent for the picture. There is no need to mention the name of this famous pacer.

Originators of the Famous O. I. C. Swine 1863

No Cholera, Foot and Mouth or any other contagious Disease in our locality for over 50 Years

Why lose profit breeding and feeding scrub hogs?

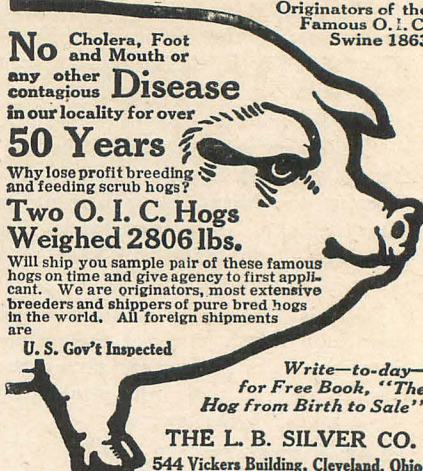
Two O. I. C. Hogs Weighed 2806 lbs.

Will ship you sample pair of these famous hogs on time and give agency to first applicant. We are originators, most extensive breeders and shippers of pure bred hogs in the world. All foreign shipments are

U. S. Gov't Inspected

Write—to-day—for Free Book, "The Hog from Birth to Sale"

THE L. B. SILVER CO.
544 Vickers Building, Cleveland, Ohio



Our Registered Chester White Boars of March and April farrow are ready for service. Good enough to ship to you C. O. D. Colonial Stock Farm, Esmond, N. D.

GUERNSEY COWS AND BULLS

\$50.00..... Buys a bull calf
\$100.00..... Buys a yearling bull
\$125.00..... Buys a heifer calf
\$150.00..... Buys a two-year-old bull
\$200.00..... Buys a mature bull or cow
"McLARAN OF WRENSHALL," MINN.

PRAIRIE DELL STOCK FARM, GOLDEN MODEL DUROCS

The Prairie Stock Farm offers some of the best bred pigs in the state, sired by the following boars: Dakota Model and Golden Chief, out of shows by the following noted boars: Grand Champion Chief Col. International Grand Champion Volunteer, Dakota Model, and Golden Chief, and other good boars. Dakota Model was one of the largest boars in the state for his age. He was sired by Golden Model XX, a first prize hog and he by Golden Model 2nd. Dakota Model's dam was a half sister to the twice grand champion Crimson Beauty that sold at public auction for \$610.00. Golden Chief is an extra large hog. He was sired by Col. Chief 2nd. first prize at Minnesota and South Dakota state fairs, and he was a litter sister to the Junior Champion boar at South Dakota state fair. Choice pigs of both sets. Sows bred or open. I can sell unrelated pigs. Ship via Soo or Great Northern.
Maurice H. Bliss, - - Genesee, N. Dak.

HOLSTEINS. Beautifully Marked Holstein heifer and male calves, 15-16ths pure, 4 to 6 weeks old, \$20.00 each, crated for shipment anywhere. All from mature dams and heavy milkers, guaranteed. One car heifers a year old, \$45.00. Write or send order to Edgewood Farm, R. 10, Whitewater, Wis.

DUROC JERSEYS Gilts out of such sows as Golden Model Queen 6th, Model Beauty and other sows as well bred as could be bought at the sales last winter. Write H. N. HOYME, Jasper, Minn.


Lyndale Stock Farm

Breeders of Registered Red Polled Cattle, and Big Type Poland China Hogs. Some good bull calves for sale. Also pigs mostly all sired by a "Peter Mouw" bred boar.
J. E. BASS & SONS, Props.
Tolley, North Dakota

BIG TYPE Poland Chinas

With quality; 100 to select from. Can furnish pairs not related, sired by four leading herd boars in the 1000-lb. class, Mouw's Jumbo 3rd, Dignans Chief, Baron and Miller's Big Chief. We are booking orders for Gilts to be bred for Spring litters. Prices reasonable. Pedigrees furnished.

J. A. Dignan
Waverly, : : Minn.



IMMUNE DUROCS

I have a few extra choice boars sired by B. and V's Orion and out of Miss Crimson, junior champion sow at Minn. State Fair, 1914. Prices reasonable. Write your wants to Wm Martig, West Concord, Minn.

MISCELLANEOUS

Threshing Rig

Complete Threshing Rig for sale at a bargain. Nichols-Shepard. 25 H. P. Double-Plowing Engine, 40x60 Advance Separator. Write for full particulars. John Kovarik, Walnut Grove, Minn.

Live Agents Wanted. You can make a nice profit by selling our guaranteed field seeds, seed corn and seed grain among your neighbors. We pay liberal commissions to reliable agents. Don't apply unless you can furnish references. Fargo Seed House, Fargo, N. D.

NO. 1 RYEGRASS seed for sale at \$1.50 per single bushel. Two to ten bushel \$1.40. Eleven bushels and up \$1.20, bags included. Makes excellent hay and is no trouble to kill out.

J. CHARLES MARTIN

Maxbass, - - - North Dakota

MEN'S SWEATER COATS, 69 CENTS. Men's gray ribbed sweater coats, heavy winter weight, first quality, v-neck, and two pockets; plain woven border with good quality buttons. These are part of our war orders that were not delivered, we are in a position to sell them while they last at 69 cents each, postpaid. Phil-Ray Company, Marble Falls, Texas.

MISSOURI AUCTION SCHOOL

FREE CATALOG KANSAS CITY, MO.

Man Immortal Now. Swedenborg's "Heaven and Hell," 400 pages, 15c post paid Pastor Landerberger, Windsor Place, St. Louis, Mo.

WANTED: Information regarding good farm or unimproved land for sale. R. G. List, Minneapolis, Minn.

LEARN TO SPEAK IN PUBLIC. We train men and women to be good public speakers. Money, position and prominence to be gained thru good platform work. Total cost is only \$5.00. We teach other things—send for outline. Prin. W. C. Moore, New Egypt, N. J.

WANTED. Live Foxes, Skunks, Mink and Badgers, any time. Envilla Stock Farm, . . . Cogswell, N. D.

WANTED to hear from owner of good farm for sale. State cash price and description. D. F. Bush, Minneapolis, Minn.

POWER FARMING. The magazine of farming with mechanical power. Send 10 cents for three months' trial subscription. Power Farming, Box C, St. Joseph, Mich.

Auctioneering

COL. H. A. KINNEY

Real Estate and Registered Stock Specialist—22 years experience. Write for dates and terms Breeder and shipper of Chester White hogs. Larger blood lines for 1915. Milnor, - - - NORTH DAKOTA

\$20,000,000 Steel Works now in operation at Duluth. Employs many highly paid workmen. They are good eaters and need food. Wanted at once 500 Farmers to supply them. L. B. Arnold, Land Agent, C. R. I. & P. Ry. Co., 107 Wolvin Bldg., Duluth, Minn.

Wheat Lands in Manitoba very much cheaper than American. Carter, Bloomsbury, N. J.

WANTED—RESPONSIBLE REPRESENTATIVE. 12 tools in 1. Sells to farmers, reamsters, contractors, etc. Lifts 3 tons, hoists, stretches wire, pulls posts. Many other uses. Free sample to active agents. One agent's profit \$45 in one day. Another \$1000 in Dec. We start you. Write for Big Color Plate. Secure exclusive sale. HARRAH MFG. CO., Box M, Bloomfield, Ind.

COW-TESTING ASSOCIATIONS INCREASE

One hundred and sixty-three co-operative cow-testing associations were in operation last year in the United States. This is considered to be a rapid growth when it is remembered that the first association in this country was organized in Fremont, Michigan, in 1905, and that as late as 1908 only six associations had been formed.

The principle on which these associations work is both extremely simple and yet important. Year after year many farmers milk cows that do not pay for the feed they consume. Indeed, the average annual production of a cow in this country is approximately 4000 pounds of milk, containing 160 pounds of butterfat. The best dairymen say there is no profit in such production, and of course there are vast numbers of cows that fall far below these figures.

The main purpose of the cow-testing association, is to enable its members to hire a tester to keep the records which in practice it is almost impossible for the farmer to keep for himself. The tester should arrive at the farm in time for the afternoon milking, weigh the milk given by each cow in the herd, and take a sample of it to test for butterfat. At feeding time he weighs the feed given each cow and estimates as well the amount of roughage. He also keeps a record of feed given to dry cows as well as those in milk, for it is obvious that the total cost of feed for the year must be taken into consideration. The following morning the individual production of the herd is weighed again and if the ration is changed the feed also is weighed. Later in the day the Babcock test is used to determine the percentage of butterfat in each cow's milk. From these figures it is possible to estimate the amount of milk and butterfat given in a month by a cow and set against it the amount of feed consumed. This method, of course, does not produce scientific accuracy but careful tests have shown that the results are within 2 percent of the cow's actual production.

Another feature of the tester's work is to watch the prices of various feedings and then to work out for the farmer the most economical ration. This, together with the weighing and testing of the milk will occupy him until it is time for him to leave in order to arrive at the next farm to test the afternoon milking. Thus the tester devotes one day a month to each member in the association and this limits the number of members to 25 or 26, the number of working days in a month, and defines within some-

what narrow limits the expenses of conducting the association. This has been found to be about \$550, a year including the salary of the tester, the cost of the acid for the Babcock test, and miscellaneous expenses. All expenses are usually borne by the members in proportion to the number of cows they own. Where the herds are large this may be \$1 a cow, but generally it is \$1.50 a year for each cow.

Not only do these records show which cows make or lose money for their owners, but they show to what extent each is profitable, the amount of feed given to each cow, and what kinds of feed at prevailing prices produce the best financial results.

Agents Wanted

BY THE

North Dakota Farmer

The State Farm Paper

Write us for special terms and territory, stating age and time you can devote to the work.

North Dakota Farmer, Lisbon, N. D.

AN EFFECTIVE REMEDY FOR BOTS AND WORMS IN HORSES

Every farmer will be pleased to learn of a most effective remedy for bots and other worms in horses which is absolutely reliable and has the indorsement of the U. S. Government. It is put up in Gelatine capsules which by a peculiar action will kill every worm in the stomach. Hundreds of bots and other worms have been removed from a single horse by these capsules. They can easily be given and used on mares in foal and colts, as they do not injure the stomach in any way; they have been used by thousands of farmers and veterinarians with excellent results. If your horses are run-down, stubborn, lazy, etc., just try some Heureka Capsules and see what they will do. Price \$2.00 for 12 capsules or with Balling-gun: Two dozen at \$5.00; four dozen \$8.00. Order today from the Breeders' Remedy Co., 47 Biddle St., Dept. 45, Milwaukee, Wis.—Adv't.

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Poultry Department



AWARDS AT THE RANSOM COUNTY POULTRY SHOW

Barred Plymouth Rocks:

Julius Murray, 1st cockerel.
F. L. Wheeler, 1-3rd pullet; 2-3 hen; 3rd cockerel
Geo. Curtis, 2d cockerel
Joe Grange, 2d pullet
P. N. Shipton, 1st cock

White Wyandottes:

W. S. Adams, 1-2-3 cockerel; 1-2-3 pullet; 1-2-3 hen; 1st cock; 1-2 pen

Single Comb Rhode Island Red:

Fred Strand, 1-2 cockerel; 1-2 cock, 1-2-3 hen; 1-2 pullet, 1-2-3 pen
Lewis Aasheim, 3rd cockerel; 3rd cock; 3rd pullet

Rose Comb Rhode Island Red

J. R. Frisby, 1st cockerel; 1-3 cock; 2-3 hen; 1-2 pullet, 1-3 pen
Geo. W. Daugherty, 2d cockerel; 2d cock; 1st hen; 3d pullet; 2d pen
H. Hirschy, 3rd cockerel.

Cochin:

J. E. Martin, 1-2-3- hen

Pit Games:

Chas. Reed, 1st cockerel; 1st pullet.

Langshan:

S. Butler, 1st cockerel; 1st cock; 1-2-3- hen

Single Comb White Leghorn:

I. E. Arntson, 1st cock; 1st pullet, 1st pen
Ernest Colton, 3rd cockerel; 2-3 cock; 2-3 pullet; 2d pen

H. Hirschy, 1st and 2d cockerel; 1-2-3- hen; 3d pen.

Rose Comb White Leghorn:

H. Hirschy, 1st cockerel; 1st cock; 1-2-3 hen; 1-2-3- hen; 1st pen

Single Comb Brown Leghorn:

J. G. Crites, 1st cockerel; 1-2-3 pullet

Single Comb Black Minorcas:

W. H. Davenport, 1 cock; 1-2- cockerel; 1st hen; 1st pullet

White Face Black Spanish:

E. Billing, 1st cockerel; 1-2-3 hen

Single Comb Anconas:

H. Hirschy, 1st cock; 1-2-3 hen; 1-2-3 pullet; 1-2-cockerel

Single Comb Buff Orpington

Ed Dadub, 1 cock; 1st hen; 1st pullet; 1-2-3 cockerel

Single Comb Buff Orpington:

Robt. Hansen, 2d cock
W. H. Davenport, 3d cock; 2d hen

Single White Orpington:

Mrs. Lizzie Gustafsen, 1st cockerel; 1-2 pullet

Single Comb Hamburg:

Howard Gordon, 1-3 pullet; 1-3 cockerel

E. Colton, 2d pullet; 2 cockerel

Pheasant:

E. Billing, 1st cock; 1-2-3 hen

Bronze Turkey:

Lewis Aasheim, 1 cock; 2d hen
Wm. Hammonds, 3d cock; 1st hen
R. E. M. Cain, 2d cock; 3d hen

Pigeons:

Frank Kaleshek, 1-2 prize on 2 pair Pit Games:

Chas. Reed, 1st cockerel; 1st pullet
White Cochin Bantam:

J. R. Frisby, 1st cockerel; 1st hen

Buff Orpington Ducks:

Geo. W. Daugherty, 1st drake; 1-2-3 duck

Wild Mallard Duck:

James Danaher, 1-2 drake; 1-2 duck

Pekin Duck:

Thomte & Thomte, 1-2-3 duck; 1st drake

Ronen Duck:

Robt Hansen, 1st drake; 1st duck
E. Billing, 2d drake; 2-3 duck

Albatross:

Robt Hansen, 1st drake; 1st duck

White Runner Duck:

H. Hirschy, 1st drake; 1-2-3, young drake; 1-2 young duck

Toulouse Geese:

E. Billing, 1-2 young geese
R. E. M. Cain, 1st old goose; 1st old gander

POULTRY AT THE N. D. EXPERIMENT STATION

Enoch Peterson has been appointed poultryman at the North Dakota Experiment Station. Mr. Peterson has made a splendid success in the poultry business. At the 1914 North Dakota state poultry show he took all the prizes on Plymouth Rocks except second on hen. Mr. Peterson was raised near Harwood and has attended the North Dakota Agricultural College several years. The aim of the poultry department will be to furnish in-

RANSOM COUNTY POULTRY ASSOCIATION

Lisbon, Ransom County, North Dakota

We recommend the following breeders, members of our Association, to those desiring strictly high-grade eggs and stock. The Association offers no guarantee and assumes no responsibility or liability in any transaction with its members.

Pekin Ducks. Eggs for sale, 10 cts. each after April 1st. Thomte & Thomte, Lisbon, N. Dak.

Barred Rocks. From the Enoch Peterson strain of Alexandria, Minn. Prize winners, entire pen scoring from 89 to 93. Eggs after April 1st, \$2.00 per 15. F. L. Wheeler, Lisbon, N. Dak.

Barred Plymouth Rocks. Utility laying strain, first cockerel at 1916 Lisbon Show scoring 93. Eggs from prize winning matings \$2.00 per 15, from utility stock \$1.00 per 15 or \$6.00 per 100. J. E. Murray, Lisbon, N. Dak.

Regal Strain White Wyandottes. Heavy winter laying strain. Exclusive breeder of White Wyandottes for 20 years. Four breeding pens of assorted stock. Prize winners at Ransom County Show. Satisfaction guaranteed. Eggs \$2.00 and \$3.00 per 15. \$7.00 per hundred. W. S. Adams, Lisbon, N. Dak.

R. C. R. I. Reds. Longfield Strain. Eggs from prize winning breeding pens \$2.00 per 15, from utility stock \$1.00 per 15 or \$6.00 per 100. Geo. W. Daugherty, Elliott, N. Dak.

Black Langshan. First cockerel at 1916 Ransom County Show score 94.4. Eggs from utility stock \$1.00 per 15, \$6.00 per 100. Cockerels priced from \$1.00 to \$1.50 each. Steve Brittain, Elliott, N. Dak.

Single Comb Buff Orpingtons. Eggs and birds in season. Write for mating list and prices. E. C. Andrus, Elliott, N. Dak.

S. C. R. I. Reds. Royal Red Strain. Winnings at 1916 Ransom County Show: 1st and 2nd cockerel; 1st and 2nd pullet; 1st, 2nd and 3rd hen; 1st and 2nd cock. Eggs from prize winning pen matings \$3.00 per 15, from utility birds \$2.00 per 15 or \$8.00 per 100. Cockerels for spring matings \$2.50 each and up. Fred Strand, Lisbon, N. Dak.

Silver Spangled Hamburgs. Eggs in season from prize winning strain \$2.00 per 15. Two mature cockerels for sale at \$2.00 each. H. W. Gordon, Lisbon, N. Dak.

Rose and Single Comb R. I. Reds My winnings at the Lisbon Show Jan. 3 to 8, 1916 on Rose Comb variety were as follows: 1st and 3rd cock; 2nd and 3rd hen; 1st cockerel; 1st and 2nd pullet; 1st and 3rd pens in the largest class in show. I have the Bean and Longfield strains of Rose Combs and the Harrison strain of Single Combs. Eggs from my prize winning pens \$3.00 per 15 or \$5.00 for 30. Utility eggs \$1.50 for 15 or \$7.00 per 100. J. R. Frisby, Lisbon, N. Dak.

Single and Rose Comb Anconas. The kind that lays is the one that pays. Try a few settings of the 280 egg strain. Eggs \$1.25 per 15 after March 20th. A. G. Evans, Lisbon, N. Dak.

S. C. Brown Leghorns. Won all prizes but one second at Ransom County Poultry Show. Eggs for hatching \$1.50 per 15. J. G. Crites, Lisbon, N. Dak.

S. C. White Leghorns. Johnston strain. Eggs \$1.50 per 15 or \$5.00 per 100. I. E. Arntson, Lisbon, N. Dak.

Barred P. Rocks and R. C. R. I. Reds. Look, Listen, if you want the best. B. Pl. Rocks "Ringlets" Direct Both Matings, Mated by E. B. Thompson. Eggs \$5.00 per 15. Eggs from single mating \$2.00 per 15 or \$6.00 per 100. R. C. R. I. Reds, Kaufmann and Windheim Strain. High scoring birds. Eggs \$2.00 per 15. Toulouse geese, best eggs at \$3.00 per 12. Imperial Mammoth White Pekin Ducks. Eggs \$1.50 per 13. I always sell what I advertise and advertise what I sell. J. P. Grange, Lisbon, N. Dak.

R. C. R. I. Reds. Eggs from utility flock, bred for winter layers \$1.50 per 15. Six choice cockerels for sale at \$1.50 each. O. O. Uhlhorn, Lisbon, N. Dak.

S. C. White Leghorns and Rose Comb Reds. Vigorous range stock. Eggs \$1.50 per 15 or \$5.00 per 100. Cockerels and yearling hens after Aug. 1st. S. C. Anconas. The kind that lay and win. Eggs \$1.50 per 15, \$2.50 per 30. Won 35 ribbons and special cup for best and largest display at Lisbon Show in Jan., 1916. H. H. Hirschy, Lisbon, N. Dak.

formation on poultry raising and to aid farmers and poultrymen in every way possible. Mr. Peterson brings the best of his prize winners to the station where he will use them in breeding up the poultry. He has done most of his work with Plymouth Rocks, but is interested in all the breeds and will have several of them represented in the breeding pens at the Station.

GETTING READY FOR SPRING TRADE

Michael K. Boyer

Now is a good time to purchase new blood, for by waiting until spring opens there is a possibility of having poor stock to select from. The choicest go with the early orders.

All poultry houses should be so constructed that there is ample room in them for the fowls to exercise and keep busy during such weather as compels them to remain indoors. For this purpose there is no better plan for a house than the one constructed on the scratching-shed order. These not only provide comfortable quarters, but they admit such large quantities of fresh air, and yet shield the stock from the inclemency of the weather, that instead of suffering from the confinement they seem to profit by it.

"Getting ready" too, means extra care with the breeding stock. We never feel safe until the "short but decisive" month of February has left us. Then we naturally look for "better days." Knowing that the birds must be more or less confined for a month or two longer, the practical man secures a lot of straw or hay, and this he uses freely in the houses, scattering grain among it, compelling the hens to work hard to secure their meals. This exercising promotes health, it keeps the stock happy, and it produces eggs. It requires health and contentment in a hen to make eggs. They are ingredients as important as is lime for the formation of the shell.

Another factor is proper feeding. A man who overfeeds does more harm than good to his stock. Proper condition means well fed and well cared for. A hen in good laying condition rarely, if ever, overfattens. It is the idle, "lazy critter" that takes on layers after layers of fat. An overfat hen is not a healthy one.

On all the well-conducted poultry plants, trap nests are used. These nests at this time of the year perform an important mission in picking out early layers. As the pullet goes on the nest she becomes trapped, and when released, if she has laid, a ring is placed

on her leg. Each ring has a separate number. On some of the large farms, pullets that have not begun laying during January are at once discarded, as winter egg producers are of more worth than hens that wait until the warm suns of spring appear. There is only one way of finding out which is the cream of the flock, and that is thru the aid of a trap nest.

If each year the breeding is done only with the winter workers, it is reasonable to suppose that annually the stock will become more valuable for that purpose. The writer has trap nests installed in all his pens. These he starts in November 1st, and keeps them going until June. For the following five months the traps are converted into open nests, no individual record being kept of the summer laying. What we want to know is which of our stock give us the most eggs during the season of the year when the prices are the highest. At the end of each year we pick out the best layers and breed only from such. Each year we sell off half of the previous years' breeders—of course retaining the cream—and make up the other half with pullets hatched in spring. We hold over during the month of January more pullets than we need, so that the pens will be made up of birds that are laying that month.

The breeding pen should now be arranged. We do not favor large flocks. Better results are always obtained from small families well managed. Our pens contain ten hens each (excepting Brahmas, in which are only six females), and for strong fertility we alternate male birds in the pens. This can be done in many ways. Some favor changing males in each pen once a week; others prefer twice a week; and still others daily. The idea of alternating is that it does not give either the males or females a chance to have favorites. It is a fact that a male bird continually in a flock is very apt to pick out certain hens as his companions, and will ignore all others in the flock. On the other hand, females are apt to form a dislike for a certain male and will refuse his attentions. It is needless to say this will be the cause of a large number of infertile eggs. Now by changing the males, those hens being previously neglected will at once take up with the new males, and, he being a stranger to the flock will be glad to at once form their acquaintance.

These are matters very important to the farmer who wants to get the best results from his flocks, and we would like to impress upon him that he should be careful in selecting males, as the cock bird is fully two-thirds of

the value of the family, and his merits and demerits are sure to be counted for or against the future generation. It is economy to buy good blood, even tho the price seems a little high.

Poultry When the Writer was A Boy

A prominent poultry writer once questioned if this generation had learned anything new. It has. The writer is not what might be termed an old man, nor would he be considered very young, yet he can see very few things now in the poultry world that were here 30 or more years ago. At that day there were theories that have since been turned into facts; there were ideas that have since been broadened and brought to a head. Look at the wonderful strides artificial incubation has made. Can one longer look upon it as a theory? Artificial hatching and brooding has become a business. It was only a dream 30 years ago. Such a thing as supplying winter egg market, or devoting one's entire time to the poultry for a living, were sufficient reasons to brand one an idiot. Today the poultry farmer makes more money, considering his investment of both cash and labor, than does the stock farmer or the tiller of the soil. We have learned something new and we are profiting by it.

When the writer was a boy (and it seems but as yesterday), no one except the regular farmers thought of keeping poultry for any other purpose than to supply their own table. The manner in which fowls were cared for in those days was certainly not a credit to either the stock or the owners.

The father of the writer was a farmer. He took a great interest in poultry, and a remark he often made was a prophecy: "The time will come when this chicken work will become a business." It proved true, but he never

Both Machines \$
Freight Only 10
Paid

30
Days
Free
Trial

130
Eggs
130
Chicks

MONEY BACK
IF NOT SATISFIED

Think of it! These
UNBEATABLE
Wisconsin Machines—Winners in five
great National Hatching
Contests, both for only
\$10, freight paid east
of Rockies. Guaranteed
10 years and
sold on 30 Days' Trial!

Wisconsin's are made of genuine California
Redwood. Incubators have double walls,
double glass doors, copper tanks, self-regulating.
Shipped complete with thermometers, egg
tester, lamps, etc., ready to run. Biggest incubator bargain
of the year. Send for our new 1916 catalog fully describing
this outfit. A postal brings it by return mail.
180-Egg Incubator and Brooder, both only \$12

WISCONSIN INCUBATOR COMPANY
Box 42 Racine, Wis.

lived to see it. Even at that early day, when a "chicken was a chicken," he believed only in pure breeds. The Dark Brahma was his fancy. Some of the neighboring farmers kept Black Spanish, and those two breeds were probably the only ones kept in the town, all the rest being of the dung-hill order. When one pictures the Spanish of today, it is not a bit surprising that this noble breed has practically left the ranks. The unsightly white face has spoiled the once handsome look of that proud bird, and the close breeding necessary to get that disfigurement has wrecked what was once a hardy constitution. Our present day fanciers have gained nothing by such work—they have simply killed a useful breed.

In those days Sunday was the great visiting day. The thought of such a thing as "no visitors allowed on Sundays" never entered the minds of the poultrymen-farmers of that era. Farmers were busy every day of the year, but they did have a little leisure on the Sabbath, so that on that day all who "kind'er liked chickens" would come over to father's to have a chat and look at his birds. Sitting around on buckets, boxes, the wheelbarrow, or the low barnyard fence, those wise-acres would hold council over the superiority of "that hen over in the flock," or "that cockerel" over any other on the farm. They were experts in their way.

As already mentioned, most of the neighbors kept common hens. They were of every color, yet one would hear yarns related about remarkable laying, all of which was then considered true. But since the writer has grown up and gotten into the work himself, he has been obliged to discredit some of the representations made in those good old days. As all those barnyard-poultrymen are dead, it will not dishonor their memory by calling forth some of the tales they told, or criticise the points they made.

The county fair was held once a year, at which there was a crude display of poultry. There were not many fowls on exhibition, probably not more than 100 head, but the pick of the county were there. The poultry judge was the man who also passed judgment on almost everything at the fair. He was imported from a nearby city, and was supposed to be the best booked man that could be found on anything one might wish to put him. It did not matter if black fowls had some red feather in its plumage or not, nor if clean-legged breeds sported feathers on their shanks. Everything went.

"Those are fine birds," the owner of a certain pen would say, as he strut-

ted up to the coop in which his fowls were quartered, and which, no doubt, were being admired by some bystander. "My grandfather bought the eggs from a dealer up in York State, gave a dollar for them, and we have been having the breed in the family ever since." One dollar per sitting was considered an enormous price for eggs, especially as eggs for table use were fetching only twelve cents a dozen. Fanciers of those days did not grow rich by any means. The father of the writer refused to sell any of his Brahma eggs for less than ten cents each, and, it is needless to say, the most of the eggs were consumed on the table.

Some of the old farmers would set their hens according to the condition of the moon—always on the increase, for then, they reasoned, they could look for increased luck. Others ridiculed that moon theory, even in planting seed, and as a test would set their hens at the very season these superstitious farmers would declare meant failure. It seemed to be their good fortune to always have good results, and then when the farmers were acquainted of the fact that they ignored their theory, they would assure them that they would regret it. They were anxiously waiting for the first failure to cry "I told you so."

Cholera used to be a great scare. A fowl seldom died from any other disease. Everybody in those days believed it. If they had not gorged their hens from morning to night with corn, and had always kept their poultry houses in a cleaner condition, "cholera" cases would have been as scarce as they are at the present day. If one asked a farmer could he deliver a nice fowl for a certain feast, he would be sure to say: "I will if the cholera don't take them all." Cholera was the great bugbear.

It seems strange how a chicken will stay on a roost all night without falling off. But if we investigate the mechanism of the foot and leg it becomes very plain indeed. The tendon of the leg of a bird that roosts is so arranged that when the leg is bent at the knee the claws are bound to contract and thus hold with a sort of death-like grip to the pole around which they are placed. Put a chicken's feet on your wrist and then make the bird sit down and you will have a good practical illustration that you will remember. By this singular arrangement, seen only in such birds as roost, they will rest comfortably and never think of holding on, for it is impossible for them to let go until they stand up.

Mammoth Bronze Turkeys

First at North Dak. State Fair. Fine heavy Stock at farmers' prices. CHRIS GEIR, R. R. 3 Edinburg, N. Dak.

PURE BRED Bourbon Red Turkey Toms: \$3.50 each. Mrs. F. Spriggs, Maddock, N. D.

Pure Bred S. C. W. Leghorn Cockerels \$1.25 each; Pullets \$1 each; 12 for \$10, f. o. b. A. Evans : : Garrison, N. Dak

FIFTY VARIETIES CHICKENS, DUCKS, GEESE, TURKEYS, Guineas. Incubators. Special low prices. Catalogue 4 cents. Dell Walrath, Janesville, Minn., Box X.

S. G. White Leghorns, R. C. Reds and Anconas. 34 prizes including first cup, my record for 1916. Eggs and stock in season. List free. H. H. Hirschy, Lisbon, N. D.

BOURBON RED TURKEYS, Unrelated Breeders. Buff Orpingtons, Good Prize Stock. G. H. Johnson, R. 2, Evansville, Minn.

S. C. W. LEGHORNS. The Famous Tom Barron's Strain. Cockerels, \$1.50 each; \$7.00 per five. Pullets, \$1.25 each; \$12.50 per dozen.

ROSE COMB REDS. Cocks and Cockerels, \$1.50 each. Hens, \$10.00 per dozen. Have a large flock to select from this fall and can fill orders promptly. Joseph Berg, Hendrum, Minn.

Eggs for Hatching, will make winners at any show. 15, \$2.00; 30, \$3.50; 50, \$5.00. Silver Laced Wyandottes, bred for business. Winter layers. Anthony Elm, Lansford, N. D.

Barred Plymouth Rock cockerels \$1.50 to \$2.50. Rock eggs, \$1.50 and \$2.50; \$4.50 per 100. Sixth year with Rocks, our only breed now. Twenty R. C. B. Leghorn hens left to sell cheap. Satisfaction guaranteed. Laurel Hill Farm, Bx. 34, Westby, Mont.

EGGS FOR HATCHING from choice Silver Laced Wyandottes. \$1.50 for 15 eggs. Mrs. Thomas Brady, Lansford, N. D.

FOR SALE. Barred Plymouth Rock Chickens, Mammoth Bronze Turkeys, Indian Runner Ducks. Eggs in season. Prices reasonable. Order early. J. Magnuson, Edinburg, N. D., R. 3

55 BREEDS Pure-bred Chickens, Turkeys, Ducks, Geese and Hardy, northern raised, vigorous and most beautiful. Fowls, eggs and incubators at low prices. America's Pioneer Poultry Farm; 21 years exp. Large fine Poultry Book and Catalog Free.

F. A. NEUBERT Box 689, : Mankato, Minn.

Breed White Wyandottes. Eggs for sale from vigorous trap-nested stock. My birds win in show room wherever exhibited. M. C. James, Valley City, N. D.

White Holland Turkeys, Toulouse Geese and Barred Rock Cockerels. Gustav Larson : : Northwood, N. D.

S. C. R. I. Reds. High scoring cockerels. Eggs for hatching in season. Henry Mertens, Crary, N. D.

White Holland Turkeys, R. C. R. I. Reds, Stock and Eggs in season. Maurice H. Bliss, Geneseo, N. D.

White and Columbia Wyandottes, Light Brahmas, and S. C. White Leghorns Over 30 years a breeder. Stock and eggs for sale. MICHAEL K. BOYER, Box 27, Hamonton, New Jersey.

B-E-A-L-S'

Dakota Strain. Bred to Lay and Win

BARRED PLYMOUTH ROCKS Won at Fargo Inter-State Fair in hot competition 1st cock; 1st, 2nd, 3rd cockerel; 1st, 2nd, 3rd pullet. At Valley City, 1st, 2nd, 3rd hen. Order choice breeders for delivery later at \$2 per head while they last. PERCY BEALS : : FARGO, N. D.

Quality White Rocks

We have as good as grow. You start right with our stock or eggs. O. A. Barton, Valley City, N. D.

Send for classified advertising rates for your poultry ad.

School and Home



Miss Ura Leader,
Ruraldale, N. D.,
Dear Miss Leader:

This month I am writing to you about two very important topics cattle, and home and school grounds. No doubt you can find a sufficient number of examples of each to illustrate what is not desirable. It will be much more difficult to find ideal examples.

Cattle are of course grown for two purposes, milk production and beef production. Milk production and beef production are specialized functions. If one were to carefully study all the high milk producing cows he would find that they all conform to a given type. The same may be said of beef production. It is not to be expected that the superlative development of both functions will be found in the same individual.

The study of the score card will give you the best idea of the ideal types. The ideal type as found in the beef animal is quite different from that of the dairy animal. The function of one is to produce beef, the function of the other is to produce dairy products. How nearly do the points found on the score card show the ability of the animal to perform these functions?

Of course the production must be economical. Every dairy cow produces some beef and every beef cow gives some milk. These terms are therefore relative. They have to do largely with economy and maximum of production.

In general all beef animals conform to a certain type and all dairy cattle to a quite different conformation. Each particular breed has special distinctive characteristics. These special breed markings are usually somewhat faddy. They do not necessarily represent markings of value.

In studying livestock it is very desirable that you have representative types before the pupils, especially when the work is first begun. It is not necessary to have representatives of the different breeds but you should have a good dairy animal and a good beef animal in order to show the contrast between the two types.

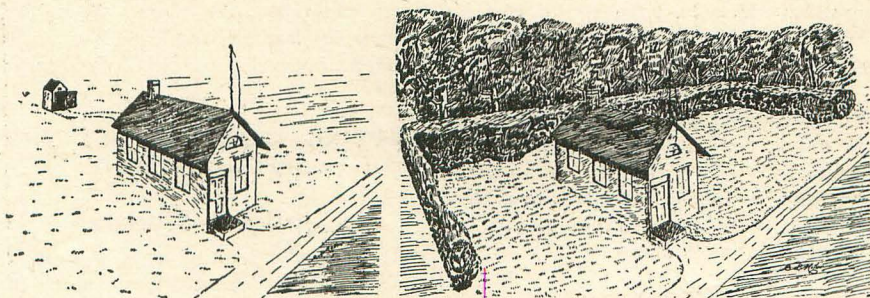
If you have but a very few animals to work with I think it would be advisable to confine your work to the

score card. If you have a large number to work with it would be well to discard the score card after two or three animals of each type have been scored.

It no doubt will be well to have clearly in mind what is meant by type. Type may mean one of two or three different things. It may be an ideal type in which case it will repre-

a good type we mean one much better than the average. Some dairy cows will give about one hundred pounds of butter per year. A few individuals have been developed which produce more than a thousand pounds per year. Between these two extremes all the remaining cows will be found to vary.

The other representative of type is a group showing the greatest frequency. If you are working with five hundred cows and three hundred of them produced two hundred and fifty pounds of butter per year this group of animals would represent the prevailing type or as it is sometimes



"There is no reason why the school house should not be surrounded with suitable plantings"

sent no living animal, but rather what one would consider an absolutely perfect individual. Another representative of type is the average of the race as a whole. With this definition there will be many animals poorer and many animals better than the present prevailing type.

When we speak of a good animal or

called the mode.

I believe that at this time a great deal can be accomplished in your study of home and school grounds. Certainly North Dakota homes should more frequently be surrounded with flowers, shrubs and trees. A home ought to be more than merely a place to eat and sleep. It should be pro-

Mayer

Cushion Shoes

Sensitive feet get quick relief. Wear Mayer Honorbilt Cushion Shoes. The quilted soles take up the shock when you walk.

HONORBILT CUSHION SHOES

No other cushion shoes equal them. Cool in summer, warm in winter. Easy on the feet from the first day and all the time. Made for both men and women in all styles to suit every taste.

WARNING. Always look for the Mayer name and trade mark on the sole. If your dealer cannot supply you, write to us.

We make Mayer Honorbilt Shoes in all styles for men, women, children; Dry-Sox wet weather shoes; Martha Washington Comfort Shoes.

F. Mayer Boot & Shoe Co. Milwaukee

Labels: Full Kid Lined, Solid Oak Tanned Counter, Solid Oak Tanned Heel, Spring Step Red Plug Rubber Heel, Solid Oak Tanned Insole, Tanned Outer Sole, Inside Cork Filling, Stitched Through Inner Sole and Fastened Underneath, Extra Strong Steel Shank, Soft Quilted Felt Sole, Full Leather Vamp.

tected from the winds, it should be made beautiful, and it should be what the name indicates.

There is no reason why the school house should not be surrounded with suitable plantings. It would make the school more attractive and it would furnish excellent material for study.

Suitable trees of different varieties may be obtained from the Mandan Experiment Station free of charge. Your Experiment Station at Fargo has published several excellent bulletins on trees and shrubs. Bulletins have also been published on the arrangement of home and school grounds. All you have to do to get these is to write a card to the Station telling what you want.

So much good material is available on this subject that it is unnecessary to write you much in detail concerning it. But I would like to emphasize the fact that you have the opportunity to do your community a real service in this work.

Very truly yours,
O. O. CHURCHILL.

PLAN THE GARDEN NOW

H. O. Werner, N. D. Exp. Station

A farm vegetable garden of one-third acre, at the North Dakota Experiment Station last summer produced enough fresh vegetables in season for a family of about seven people, beside a surplus for canning and storing. The past season was very unfavorable for growing vegetables, especially in the Red River Valley, but even under those conditions, after all the seed was bought and labor was paid at an average rate of 25 cents per hour, with the value of the vegetables figured at wholesale prices, this garden showed an actual profit of almost \$10.00. The money profit is however, of little value as compared with the real value that a bountiful supply of fresh vegetables is to a farm family. The results with this garden can easily be duplicated by any farm, as it was operated just as any farmer would operate it.

The best way to start a successful farm garden is to make a plan of your garden at this time of the year. Have the garden rather long and narrow with rows far enough apart to permit horse cultivation and have all vegetables of the same season together. Endeavor to have very early vegetables with a constant supply of a number of different vegetables all thru the season and then enough for canning and storing. A plan of the garden referred to previously, can be

found in North Dakota circular No. 5 which can be secured by anyone desiring it. This plan will, of course, not fit the needs of every farm, but it can be used as a suggestive guide, different people wanting different quantities of certain vegetables.

After the plan of the garden has been made, make out your seed order. Do not try to get the cheapest seeds, as they are generally the poorest and most expensive in the end. Buy the best seeds you can from the best seedhouse, of the best standard varieties. Try out new varieties very carefully or leave it to the Experiment Station to try them out. For early vegetables the plants should be raised in hotbeds which should be started about the middle of February.

GETTING READY TO SET THE APPLE ORCHARD

Charles H. Chesley

It is doubtless true that no branch of farming has changed so much in the last two decades, as apple growing was formerly a side line and one that required little time or attention. It used to be considered a fundamental truth that an apple tree would grow and take care of itself as well as an oak. All this has changed. From being a side line it has changed, in many instances, to a great business. This is especially true of favored apple growing sections of the country. Also, instead of the apple tree taking care

of itself at the present time, there is no farm crop that requires more attention to produce the best quality of fruit.

Twenty or more years ago there were some seasons when apples were not worth picking, the price was so low. A few years later all this changed and the sudden inrush of pests almost everywhere entirely changed the status of apple growing. Many of the old or-



**You like to go
Hunting
Fishing
Trapping**

Then surely you will enjoy the National Sportsman Magazine with its 160 richly illustrated pages, full to overflowing with interesting stories and valuable information about fens, fishing tackle, camp-outs—the best places to go for fish and game, and a thousand and one valuable "How to" hints for Sportsmen. The National Sportsman is just like a big camp-fire in the woods where thousands of good fellows gather once a month and spin stirring yarns about their experiences with rod, dog, rifle and gun. All this for 15c a copy.

Special Offer

We will send you **FREE of Charge** one of our handsome Ormulo Gold watch fobs as here shown with Seal grain leather a trap and gold plated buckle on receipt of \$1.00 for a year's subscription to the National Sportsman. Here's what you get for your money?

12 copies National Sportsman at 15c ea., Val. \$1.80
Watch Fob, " .50

Total Value, \$2.30

All to you for \$1.00. Your money back if not satisfied.

NATIONAL SPORTSMAN, 230 Columbus Ave., BOSTON, MASS.

Land That Pays the Owner a Profit.

The Mohall Security Bank sent me the following returns of last year's crop of N. E. ¼ 20-160-84 being Clay Township, Renville Co., North Dakota, rented to Edward Fitzgerald, on my one-third share, he furnishing seed, viz:

| | |
|-------------|----------|
| Wheat..... | 1423 bu. |
| Oats..... | 623 bu. |
| Barley..... | 401 bu. |
| Total..... | 2447 bu. |

Besides the quarter the above grain was raised on, I offer for sale S. E. ¼ of Sec. 1 in same township. Also E. ½ Sec. 27 162-83, being in Hoffman Township, Bottineau Co., and about twelve miles from the farm located in Sec. 1, Clay Township, all tributary to Mohall, the county seat of Renville County.

From the top of one of the elevators at Truro, N. D., being half mile from the quarter I offer for sale in Sec. 1, Clay Township, you can see and count 27 substantially erected grain elevators. I mention this to show that this is a very productive section of country.

The above mentioned descriptions contains one section of land which I offer for sale at \$20,000, on terms. Any parties interested may address

M. O. HALL, 3320-30th St., San Diego, California.

chards have been killed by San Jose scale and other insects and diseases, but the increased prices have caused the setting of millions of young trees.

Thousands of trees that have been planted in the last ten years will never bear an apple for the reason that the owners set them with the idea of getting rich quickly, and they find the process is altogether too slow, so they allow the orchards to lapse into early ruin.

The first requisite in setting the young orchard is the selection of the right varieties. He will do well who goes in for choice table apples in these days of uncertainty. There will always be a good market for them. McIntosh and Delicious are always salable. Not all of these do well in all sections of the country. Thus the Gravenstein reaches perfection in the Annapolis valley of Nova Scotia, the McIntosh in New Hampshire and sections of Montana and the Delicious in certain Middle States. It will be well to investigate the possibilities of table apples before setting the orchard, and first and foremost resolve to grow nothing but the highest quality of fruit.

Fall setting is practical in the Middle States, but so far as I can see the only thing to recommend it is more time to attend to the work than in the spring. If the orchard has not been set in the fall, I would advise the careful selection of a site and thoro preparation for the young trees, so they may be put in as soon as the frost is out of the ground in the spring. The trees may even be ordered for early delivery. Apples do well on a variety of soils but the ideal is a deep, rich well drained clay or loam. This ought to be well enriched and in a good state of cultivation before the trees are set. Where it is possible to do so, turn in a crop of legume.

The best location is a gentle sloping hillside which insures thoro soil drainage and good air drainage. Surface drainage is important as it is impossible to make trees thrive in a cold water-logged soil. Air drainage is also needed on account of late coming frosts. Cold air is heavier than warm and as the air cools it slides down into the valleys. Hillside pockets are also dangerous as they tend to catch and hold this cold air. Never plant trees in deep valleys or pockets. At least be sure that there is a valley near that the cold air can slide into and do no harm.

If possible I would choose a northern or eastern slope, not because this will in anyway influence the buds, but to avoid sun scald. Trees set in the direct glare of the sun on a southern slope are more or less liable to injury from this cause. The prevailing winds should be considered and it is of considerable advantage to the young trees if they are protected by a wind break.

Among Our Advertisers

BOUND FOR HONOLULU

Effective February 8th, Steamship Northern Pacific, of the Great Northern Pacific Steamship Company, now sailing between San Francisco and Astoria, will be removed from coast-wise service and placed in service between San Francisco and Honolulu via San Pedro.

On February 16th, this ocean greyhound leaves San Francisco for a deluxe cruise of the Pacific to Honolulu and the Mid-Pacific Carnival, February 21 to 26, returning to San Francisco March 4.

POULTRY ASSOCIATION LAUNCHES ADVERTISING CAMPAIGN

The Ransom County Poultry Association was organized Jan. 27, 1912. The Fourth Annual Show which was held in Lisbon, Jan. 3 to 8 was the largest and most successful yet held, over 500 birds being entered. The Show was judged by E. G. Roberts of Ft. Atkinson, Wis. A new feature added this year consisted of a series of lectures on poultry topics by Prof. C. E. Brown, head of the Poultry Department at the Minnesota Sub-Experiment Station at Crookston. This feature was especially well received and will be continued in the future.

Ransom County has a reputation for the number of pure bred flocks found on farms and every one is impressed with this fact when visiting our county for the first time. The Association has a large membership thruout the county. All of its members breed one or more varieties of pure bred birds and the present advertising campaign has been started with the object of focusing attention upon our breeders. The next annual Show will be held Dec. 18-23 inclusive. See ad of Association and members also awards at last show on page 16.

HARDY GRAPES FOR THE NORTHWEST

Wm. Pfaender, Jr., (of the Pioneer Nursery Co.,) New Ulm, Minn., writes: It may be of interest to many of your readers to know, that we now have grapes in Minnesota that can be grown successfully without winter protection. The standard varieties, such as Concord, Moore's Early and

others can be grown in Minnesota, but a fair crop can only be expected if they are well protected in winter. Since several years however, we have a quartette of grapes all of the same parentage—being a cross of our native white grape and the Concord—that are perfectly hardy in our severe winters where the thermometer often drops to 20 to 30 below zero.

The wild white grape with which the Concord was crossed was very sweet, a late bloomer and matured its fruit very early, which is also true of the cross above mentioned. The vines of these hardy grapes drop their foliage early and ripen up their wood perfectly, are vigorous growers, and annual bearers of a good sized bunch, and the berries are nearly as large as those of the Concord. They produce jelly, unfermented grape juice and red wine of superior quality. These grapes can be successfully grown much farther north than southern Minnesota, and are now being tested near Winnipeg, Manitoba, and Indian Head, Sask., Canada.

SEES FUTURE IN THE FUR BUSINESS IN AMERICA

A. B. Shubert, President of A. B. Shubert, Inc., Chicago, U. S. A., the Largest House in the World dealing exclusively in American Raw Furs says:

"The fur business in America has just started its popularity. The men and women of America have just begun to appreciate furs and to wear them in a becoming manner. The man whose business compels him to be outdoors a great part of his time, who drives his own automobile, knows the necessity of a fur-lined overcoat and appreciates it. The up-to-date man, who has many social functions to attend, recognizes the fact that he has to have a fur-lined top coat. He makes his selection according to his means. A short time ago one of our leading retail dealers sold a coat lined with Russian Sable, the buyer paying ten thousand dollars for it.

The future is bright for the American trapper and if the European war should cease and the markets of the world open to our North American furs, it is no idle dream to say that all previous high price markets for American raw furs would be passed.

SEED AND NURSERY HOUSE

One of the oldest and most reliable seed houses of the Northwest is located at Bismarck N. D. We refer to the Oscar H. Will & Co., who are advertising corn, seed and trees. Send for their Catalog.

Household Hints

By Aunt Maggie

Hemstitching can be done down seams or on circular places if one will put blotting-paper or several layers of newspaper between the two edges, and stitch a seam of usual width just as if the paper were not there. Use a little coarser thread in sewing, but the usual stitch. Pull out the paper, turn back the edge, and stitch each side of the seam. You can turn as for a hem, or just fold back and catch down with French knots or brier-stitching. This makes a garment more attractive, and is quickly done even on curved seams where real hemstitching would not be possible. Insertion can be joined in this way, for yokes and other articles.

It is "as cheap to sit as to stand," should be observed in the kitchen of all places. A revolving stool, or any kind of high chair or seat, will prove a boon to the kitchen worker. It is no longer regarded as a sign of laziness to sit while you work; it shows wisdom. Have tables and shelves arranged to suit your own height. Stooping and bending tire the body, and spoil the figure.

H O N E Y

Pure Extracted honey—the most healthful and wholesome of all sweets. Our honey is put up in a neat clean manner, and is strictly first class in every way. Price: 2-60 lb. cans in case, \$12.60; 1-60 lb. can \$6.60; 6-10 lb. pails in case, \$7.20; 6-5 lb. pails in case \$3.75; single 10 lb. pails \$1.25; single 5 lb. pails \$.65.

EGGERS APIARIES CO.,
Eau Claire, R. 1 : Wisconsin

WOOD! WOOD!

I have several hundred cords of choice Birch and Tamarach wood for sale at the following prices: \$3.75 for birch and \$2.75 for tamarach, sawed 12 inch at 75 cents per cord extra. F. O. B. cars Tenstrike, Minn.

PAUL HALUPTZOK

Tenstrike, - Minnesota

CORNEB BEEF

Cut the meat into convenient pieces of five or six inches square. To each 100 pounds of meat, take 10 pounds of salt. Sprinkle a layer of salt, one-fourth inch deep over bottom of barrel, pack in closely a layer of the cunks of beef, then a layer of salt and a layer of meat. Repeat till the meat and salt have been used up. Be sure to have enough salt to make a good layer on top.

Let stand till the next day. Then for each 100 pounds of meat take 4 pounds of sugar, 2 ounces of baking soda and 4 ounces of saltpeter. Dissolve these in a gallon of boiling water, cool and add 3 gallons more of water. Pour this over the meat. It should be enough to cover it. Place a weight on the meat to keep it in the brine. Watch the brine closely in the spring. In case it gets ropy or does not drip freely from the finger, make a new brine and wash each piece of meat carefully before putting it back in the barrel.

CURING BACON AND HAMS

The brine method is the most satisfactory way of curing hams and bacon on the farm. To sugar cure them over night, rub each piece with salt and allow it to drain. Then pack in a barrel with the hams and shoulders in the bottom, using the strips of bacon to fill in with or place on top.

For each 100 pounds, take 8 pounds of salt, 2 pounds brown sugar and 2 ounces saltpeter. Dissolve these in 4 gallons of boiling water. After cooling, pour it over the meat which should be covered. Place a weight on it to keep it in the brine. Leave the bacon in the brine 4 to 6 weeks, and the hams 6 to 8 weeks, then smoke it.

Handle salt pork in the same way, only use 10 pounds of salt and leave out the sugar.

A GOOD ROAST FROM A TOUGH CUT

An excellent roast may be made from a very tough cut of beef by the following method.

Select a thick cut of the lower round or any other portion that is without bone (this should be 3 or 4 inches thick). Pound flour into the meat on both sides (about one and one-half

cups of flour can be pounded into a 3- or 4-pound piece). The pounding breaks up the fibre and the flour retains the juices. Sear the meat all over and place in a roaster. Pour the contents of a can of tomatoes over the meat. Onions and other seasonings may be added, according to taste. Cook slowly. This makes a tender roast and excellent gravy. It also is very good when sliced cold.

Tack this up in your laundry for handy reference: To set colors—green, blue, lavender, aniline reds, purple and pink should be soaked in alum water—two ounces to a tub. Black, gray and dark-blue should soak in strong salted water.

A little salt rubbed on the cups will take off tea stains. Use salt and water to clean willow furniture. Apply with a brush and rub dry. A small quantity of salt put into whitewash will make it stick better.

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Seasonable Receipts

Mrs. Sadie Baird, Editor

PORK-RIBS, POTATOES AND KROUT

Boil ribs until half done; put in kroust and boil until one-half hour before serving; then put in potatoes. Season with one teaspoonful sugar and a little pepper.

FRIED LIVER AND BACON

Have liver sliced medium thin, lay in pan and pour over boiling water so that all parts may be covered. Let stand a few minutes; pour off the water and roll liver in flour or fine crumbs. Fry bacon to nice crisp, brown and remove from skillet, leaving the hot fat into which lay liver and cover with tight tin cover; let fry one-half hour turning on both sides until a nice brown.

HOME SAUSAGE

Four pounds fresh pork put thru meat chopper, two tablespoonfuls salt (level), two heaping tablespoonfuls powdered sage, one teaspoonful pepper, two teaspoonfuls molasses; pack firmly in a mould and let stand over night. Make into flat cakes and fry in a little butter.

MEAT LOAF

Remove the skin, gristle and bone from two pounds of beef (round steak) and chop the meat fine. Measure the meat; and allow an equal quantity of bread or cracker crumbs;

mix the two and add seasoning to taste. Moisten with one-half cup of milk two tablespoonfuls of butter and two well-beaten eggs. Pack in a buttered brick-loaf pan; place this in a pan of hot water and bake until firm in the center. Turn out on hot platter and serve with tomato sauce or white sauce.

CREAMED CABBAGE

Chop as for cold slaw and boil in salted water about 20 minutes, then drain and add one cup milk. Let this come to the boiling point and add a teaspoon flour which has been rubbed smooth in a tablespoonful butter melted. Cook a few minutes and serve.

ONE EGG CAKE

One cup sugar and one-fourth cupful butter creamed; add one well-beaten egg, one cupful milk, two cupfuls flour, two teaspoonfuls baking powder, one teaspoonful vanilla. Bake either in layers or loaf.

KIDNEY BEAN SALAD

One can kidney beans, one stalk of celery, five cents' worth of sweet cucumber pickles and good two sized onions chopped fine. Mix with good salad dressing.

CABBAGE SALAD

One quart finely chopped cabbage, yolks three eggs well beaten, one-half pint vinegar, two tablespoonfuls sugar, one tablespoonful melted butter, one-half cupful thick cream, a little salt, pepper and mustard. Mix all together and heat to boiling; add cabbage and set away in china dish to cool.

PORK-CAKE

One pound of salt pork from which the rind and lean have been cut. Chop very fine, pour over it one-half pint of boiling water, add two cups of sugar, one cupful of molasses, one teaspoonful of soda, stirred into molasses, one pound of raisins rolled in flour, a teaspoonful of nutmeg and clove, two teaspoonfuls of cinnamon. Add enough flour to make it stiff, roll out about an inch thick and bake.

FRUIT SALAD DRESSING (Boiled)

Two egg yolks, two tablespoonfuls sugar, one-half tablespoonful flour, juice of one-half lemon, added when cold, one-half cupful whipped cream, one-half cupful pineapple or other fruit juice.

Mix the sugar and the flour, add the egg yolks well beaten, then the fruit juice. Cook over hot water until thick and let cool. When cold, add the half cupful of whipped or thick plain cream and mix with the fruit. This will make enough to serve six people. Use three cupfuls or less of fruit to this.

SQUASH PIE

One egg, one-half cup of sugar, one tablespoonful of butter, one teaspoonful of flour, one-half cupful of cooked and mashed squash. Beat well; add one teaspoonful of cinnamon, one-half teaspoonful of allspice, one-half teaspoonful of clove, one-half pint of milk. Pour into crust and bake.



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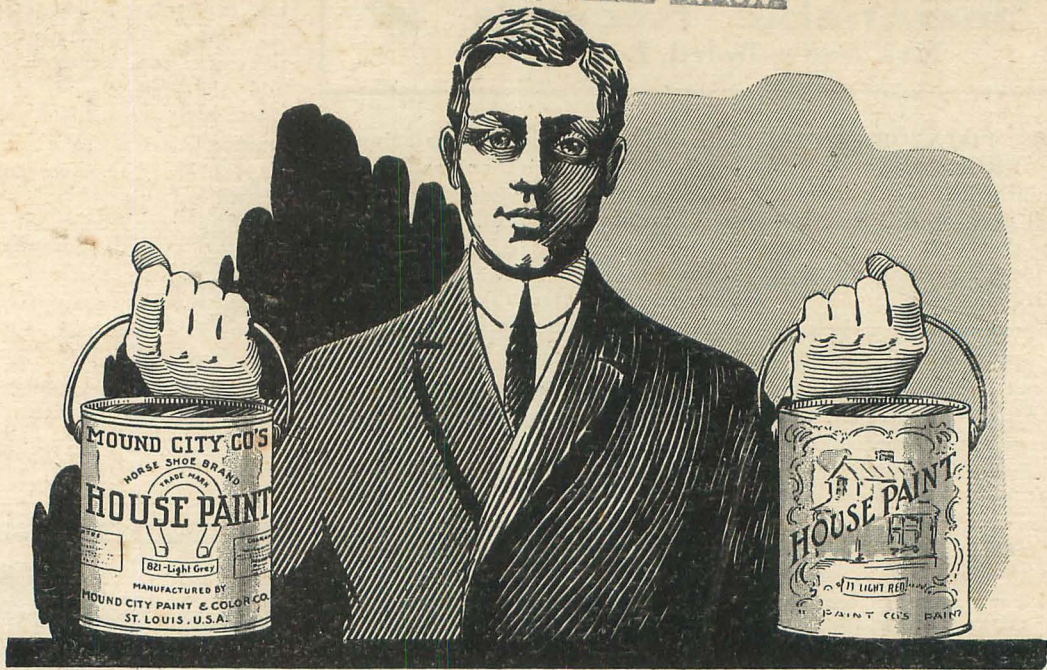
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